

III. PREVENTIVE CONSERVATION OF COLLECTIONS IN STORAGE

EVALUATION MEETING



ACTIVITY REPORT

For the Museum Section,
Cultural Heritage Division of UNESCO

March 2009

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EXECUTIVE SUMMARY

In January 2008, the ICCROM-UNESCO Storage Task Force was established. It is composed of museum and conservation professionals from Angola, Argentina, Austria, Czech Republic, India, Iran, Kenya, the Netherlands, Peru, the Philippines, Serbia and Venezuela, and recently Columbia.

From January 2008 until February 2009, the Storage Task Force has been working in small groups to contribute, together with ICCROM staff and collaborators (G. de Guichen, S. Lambert), to the development of the Storage re-organization methodology (see attached document).

The methodology is structured into 3 phases (Condition survey, Re-organization, Implementation) and around 4 aspects (management, collections, building and spaces, storage units and equipment). A diagram illustrates each phase and its different steps; a card describes each step in the methodology and is associated to visual aids, exercises, worksheets and other references. The whole product is meant to support the staff of small to medium museums in assessing and re-organizing the storage of their museum collections. It is also meant to serve teaching and learning purposes.

One year after the initial meeting in January 2008, it was planned to convene the Storage Task Force again at ICCROM for an Evaluation meeting, to share the progress of the various working groups, evaluate the materials produced and finalize a first version of the methodology. The ICCROM-UNESCO project should then continue in 2009 with further testing to adjust and finalize the approach and related materials

Thanks to the initiative of one member of the Storage Task Force, Alvaro Gonzales conservator and conservation teacher from Venezuela, the Evaluation meeting did not take place at ICCROM but in Caracas, in combination with a major event: the 4th Cultural Heritage Forum (see programme in annex). This year, the Forum, an international conference dedicated to the preventive conservation of collections, was attended by over 200 people from the region and beyond. It benefitted wide press coverage in the international press. The Forum organizers were able to invite 8 members of the Task Force as guest speakers, and to support travel and living costs for most of them. Other members were able to participate thanks to their institution or to UNESCO support. During the Evaluation meeting, which took place just after the Forum, the conference organizers generously covered accommodation and meals of all the Task Force members.

MEETING REPORT

The meeting took place from 13 to 17 February 2009, most days with very long sessions in the evening due to the heavy agenda! (See agenda in annex).

The objectives of the meeting were to finalize the methodology, refine the diagrams and steps, collate and organize related materials (images, exercises, worksheets), finalize the mission team and planning for the pilot project (Argentina) and explore future actions to test the methodology and disseminate it as widely as possible.

During the 4 ½ days, the various working groups of the Task Force presented their specific results (see reports from the Storage Task Force in annex) which were discussed in plenary sessions. There were also presentations and discussions of the two selected pilot projects in Argentina and Iran. The rest of the time, the Task Force divided in smaller groups, each focusing on one aspect or one phase of the methodology.

The outcomes of the meeting were:

- ⇒ The formulation of an 'Introduction' to the methodology.
This introduction explains the purpose and the structure of the methodology. It is essential if the methodology is to be used as a stand-alone material.
- ⇒ The development of an 'induction phase' and related diagram titled 'Getting started'. Since the storage re-organization process involves surveys of collections and buildings, meetings with staff, etc., the Task Force recommended including this short induction phase into the methodology. Its purpose is to guide the user into preparing in advance all the necessary tools and documentation, and in getting the initial support of its director and colleagues.
- ⇒ The revision of the diagrams for phase 1 (condition survey) and 2 (reorganization project) into a simpler and more user-friendly structure.
- ⇒ The finalization of all the cards related to the steps for phase 1 (condition survey). Those for phase 2 (reorganization project) had already been prepared at ICCROM by de Guichen and Lambert.
- ⇒ The preparation of the 'Re-organization planning' mission to Argentina (see separate activity report on the Museum of Corrientes).
In the course of 2008, the Task Force selected the Museum of Corrientes in Argentina and the Isfahan Museum of fine arts in Iran as 'pilot case studies' for the methodology. The pilot case studies were both selected in the country of a Task Force member to ensure guidance and follow-up at a reasonable cost. The two museums completed the first phase in 2008. The Task Force decided to proceed with phase 2 for the Museum of Corrientes, which was now ready. Instead, it was agreed to postpone phase 2 at the Isfahan museum since proposed dates for the mission was not fitting within the UNESCO contract deadline.
- ⇒ Recommendations for actions in the last year of the UNESCO ICCROM project.
There is great interest among the task force to test the methodology in the coming year, either within their institutional planning or as new activities. Proposals will be collected and integrated into the plan for Year 3. The Task Force also discussed the final format of the materials (web-based, publication, etc.), the copyright issue, especially for the image database, and the dissemination strategy. These issues will require further study in the last phase of the UNESCO ICCROM project.

SOME REMARKS IN CONCLUSION

The evaluation meeting was very rewarding for both participants and organizers.

For the Task Force members, it was the opportunity to clarify issues face-to-face, and to report on their respective experience during 2008: Since they worked for 10 months by e-mail and conference calls (through Skype) in smaller working groups, they found very useful to be able

to meet, to present findings and challenges of working at a distance, and to get feedback from the whole group. There were lively exchanges of views and experience. Being able to meet in person was also essential to advance substantially in the revision and production of the methodology.

For ICCROM too, it was a thought provoking meeting, and also an opportunity to evaluate the approach we had taken to set up a Task Force and stimulate voluntary work all over 2008.

1. Main considerations and lessons learnt...

- As it happens often when developing teaching and learning materials, there is a challenge of balancing the required level of detail and comprehensiveness of the information in the methodology with the level of clarity and simplicity, especially since we target professionals from the smaller museums.
- Another issue which was considered is the need to further clarify the user profile and requirements. The proposed methodology aims to serve the needs of museum staff, and at the same time, those of a potential trainer or museum adviser. Therefore, the materials include sets of exercises, teaching aids and further reading especially targeted to trainers.
- Some steps in the methodology proved to be especially difficult to conceive and formulate in a user-friendly manner, such as guidelines to 'classify collections' or to 'estimate space requirements'. These steps will be further refined in the Year 3 of the UNESCO ICCROM collaboration, in the testing phase.
- It proved very useful to have selected 2 case studies at the same time we were developing the methodology. They helped in identifying gaps, i.e. where a methodological step was missing or was not explicit enough. They helped also in streamlining the approach, i.e. where a step defined in the theoretical diagram is identified as not directly useful or when it is misplaced in the process. Since there were two different case studies in two different cultural contexts, it was also helpful to compare interpretation and results.
- The Task force re-confirmed the importance of the online photo database which was compiled using pictures from various Task Force members (see report in annex). In addition to this photo database, Gael de Guichen, the meeting leader proposed to prepare a series of small slide collections to illustrate critical steps in the methodology. These could be used as self-learning material, and especially in the form of PowerPoint, for teaching purposes.
- During the meeting, we also realized the challenge to keep the different steps of the methodology at the same level of complexity (or simplicity...). Also the issue of language and communication was considered. A Task Force member proposed to develop a glossary of terms related to our project. This could be developed in Year 3 of the UNESCO-ICCROM collaboration

2. Evaluating the approach

Developing an effective methodology and the related teaching and learning materials requires the early involvement of "potential users" who represent the variety of cultures, educational background and responsibilities of the audience that the project targets.

In consideration of the modest finance allocated to this project, the approach adopted by ICCROM was based on:

(a) Investing in the expertise and knowledge acquired by ICCROM in this area (in the person of Gael de Guichen, recognized specialist and teacher in this area with a 40 years experience in a wide range of contexts; in the production of sets of teaching and learning materials, especially one set on storage management, developed in the framework of PREMA, Prevention in the Museums of Africa)

(b) Selecting and engaging a voluntary team of professionals from different cultural and institutional backgrounds, who share the needs and interest for such a methodology. Agreements were signed with their respective institution to facilitate their continuous contribution (i.e., in the form of 1 day a month of their time).

The working approach included meetings and independent group work on specific aspects or topics, defined by the Task Force. Group work (at a distance) took place once Task Force members were back in their respective countries.

During the evaluation meeting, a number of suggestions were made to improve such a collaborative approach, in particular:

- Working group assignments should be clearly defined during the meetings so that groups can start working with clear objectives and deadlines.
- Assignments should take into account the workload of the Task Force members within their institutions. For some of them, it was not always easy to combine their institutional responsibilities with their commitment to the project which amounted for some of them to much more than what was foreseen. ICCROM should also facilitate this commitment by keeping the Head of institutions regularly informed of the project.
- ICCROM could take a stronger role in following up the specific progress of each group, and in ensuring communication between the various working groups.
- It would be useful to develop the Task Force skills in designing learning materials.

Overall, the experience so far was successful and demonstrated the importance of collaborative work in methodology development. In the course of the year, the Task Force members became a strong team, improving their problem analysis and negotiating skills, their ability to listen to and integrate different opinions, and to work together effectively. The methodology thus becomes a shared 'product', with major chances to respond to and be adopted by a wider group of people than if it is the product of one mind.

3. Exploring future actions

While UNESCO and ICCROM aim at developing a web-based tool, widely accessible through the internet, Task Force members recommended that part of the materials be printable or even produced as a short 'handbook', which users could carry with them in the storage of their museums, or share with their teams during planning meetings. The web-base tool should be developed with a professional web designer to ensure easy access and navigation.

A main priority for YEAR 3 will be the testing of the methodology, which is the best way to assess its effectiveness and propose adjustments. Among the testing strategy, the Task Force suggested to consider the finalization of the 2 initiated case-studies (Argentina and Iran), the development of initiatives with conservation teaching programmes (i.e., using the

methodology to teach the topic and organize exercises in real contexts). Also, at least another museum should be selected as a “model museum”, where we could monitor the development and full implementation of the 3 phases of the methodology.

The Task Force recommended also further work on the methodology. In particular, there is a need to produce a glossary and to verify that the terminology used is consistent throughout the materials. Few steps remain to be fully developed, others such as those related to estimating space requirements for collections or classifying collections are to be further studied, and others require re-formulation, such as those related to teambuilding in phase 2.

Efforts are also required for the development of related learning and teaching tools. In particular for the most complex steps, it would be useful to create more exercises and worksheets. The future of the online photo-database will need further thinking, in particular in order to resolve the copyright issues and to ensure its long term access.

Catherine Antomarchi
Rome, March 2009

APPENDICES

A – Agenda of the Meeting

B – Information about the 4th Cultural Heritage Forum: Preventive Conservation of Collections

C – Report on the online photo database

D – Reports from the Storage Task Force

APPENDIX A – Agenda of the Evaluation Meeting

DATES AND LOCATION : 13-17 February 2009 (Caracas, Venezuela)

BACKGROUND

By March 31, 2009, the results expected for the ICCROM-UNESCO project on preventive conservation for collections in storage are:

- (a) a finalized common methodology for storage reorganization
- (b) related training tools
- (b) at least one mission in one of the two countries where the pilot project are taking place

OBJECTIVES:

1. To finalize the methodology scheme, and in particular, for each step identified on the scheme:
 - Ensure that a “card” clearly describes it (i.e. why this step? objective, how?)
 - Ensure that the related support materials (photos, printed materials and exercises) are identified and for 90% finalized
2. To plan the development of the pilot projects in 2009.
3. To propose short-term and long-term actions for the testing/dissemination of the methodology.

PARTICIPANTS:

Task Force Members:

- Ivan Berger (Czech Rep.)
- Ziva Domingos (Angola)
- Aleksandra Dzikic Nikolic (Serbia)
- Aisha Fadhil Ali (Kenya)
- Alvaro Gonzalez (Venezuela)
- Martina Griesser-Stermscheg (Austria)
- Rosanna Kuon (Peru)
- Mojdeh Momenzadeh (Iran)
- Martijn de Ruijter (The Netherlands)

ICCROM:

- Catherine Antomarchi
- Gaël de Guichen
- Simon Lambert

Observers:

- David Cohen (Colombia)
- Mario Omar Fernandez (Colombia)

PROPOSED AGENDA

Friday 13 February

- 08.50 – 09.15 Welcome by President of IDEA, Prudencio Chacon, and the UNU-BIOLAC Coordinator, Jose Luis Ramirez
- 09.15 – 10.30 Sharing what happened since first meeting – *Brief presentations by participants*
- 10.30 – 10.45 *Break*
- 10.45 – 12.00 Review and state of the art of Phase I – *Presentation by Ziva & team*
- 12.00 – 13.00 *Lunch*

- 13.00 – 14.00 Introduction to the group work and explanation of the card content (why, objective, how) – *Presentation by Gaël*
- 14.00 – 17.00 Review and finalization of cards & related tools for Phase I – *Group work*
- 17.00 – 18.00 Report on the group work

Saturday 14 February

- 09.00 – 12.00 Review and state of the art of Phase II : feedback from Task Force members – *Led by Gaël and Simon*

Sunday 15 February

- 09.00 – 10.30 Presentation of the results of the 'Estimating Space for Collections' working group *Presentation by Sasha and the team*
- 10.30 – 10.45 *Break*
- 10.45 – 12.00 Review and finalization of the cards for Phase I (*cont'd*) and Phase II – *Group work*
- 12.00 – 13.00 *Lunch*
- 13.00 – 15.15 Review and finalization of the cards for Phase I (*cont'd*) and Phase II – *Group work continues*
- 15.15 – 15.30 *Break*
- 15.30 – 18.00 Presentation and use of the image database on Flickr – *Presentation by Simon – Group work on the database*

Monday 16 February

- 09.00 – 12.00 Review and finalization of the cards & related tools for Phase I and Phase II – *Group work continues*
- 12.00 – 13.00 *Lunch*
- 13.00 – 14.30 Presentation of the case-studies in Argentina and in Iran – *Presentation*
Discussion of the future development of the projects in Iran and Argentina
- 14.30 – 18.00 Review and finalization of the cards & related tools for Phase I and Phase II – *Group work continues(final)*

Tuesday 17 February

- 0900 – 10.45 New state of the art of Phase I and Phase II: what is missing, what need to be developed? – *Report on the group work and discussion*
- 10.45 – 11.00 *Break*
- 11.00 – 12.00 Discussion and development of recommendations for testing the methodology in 2009-2010
- 12.00 – 12.30 Decide short-term and mid-term actions
- 13.00 *End of the meeting*

APPENDIX B – Information about the 4th Cultural Heritage Forum: Preventive Conservation of Collections

9-12 February 2009. Caracas, Venezuela

4th Cultural Heritage Forum: Preventive Conservation of Collections



Dates: 9-12 February 2009
4-8 February 2009, 3 workshops

Place: Caracas, Venezuela

Partners: Cultural Heritage Conservation Foundation
(fundacionconservacion.org.ve)
ICCROM (iccrom.org)
Instituto de Estudios Avanzadas (idea.gob.ve)
United Nations University Biotechnology Programme for Latin America
and the Caribbean (biolac.unu.edu)

Forum: Because of an impending emergency of entire collections in tropical countries, preventive conservation is developing new approaches to heritage conservation, especially their storage conditions. These issues will be covered in the forum's sub-themes: Reorganization of deposits and storage; Applied sciences of preventive conservation; Developing educational programs in preventive conservation; Shifting the emphases of conservation for museums and archives; and The city as a great architecture collection and architecture as a collection house.

In addition, 3 workshops will be offered prior to the forum. They are: Reorganization of storage, instructor Gaël de Guichen; Theory and Practice of environmental assessment and control, instructor Dr. James Reilly; and Applied Sciences for Conservation of Cultural Heritage, instructor Dr. Nieves Valentín.

Forum objectives: Provide participants with worldwide issues and solutions to conservation in tropical countries: the latest approaches to storage and climate control, cataloguing, preventive applied sciences conservation techniques, architectural preservation, and educational conservation programs.

Methodology: Formal presentations, discussion tables, small specialized work groups, poster sessions, and the workshops' actual preventive conservation solutions.

Lecturers: 26 invited international expert conservators and 10 speakers selected on the basis of abstracts submitted to the Cultural Heritage Conservation Foundation.

Working language: English and Spanish (translation services provided)

Participants: 200 professionals and students in the fields of archives, art, architecture, and patrimonial collections. Preference will be to applicants working in positions in which they can share, transmit and disseminate the skills and information gained during the forum to their respective organizations, colleagues and/or clients.

Expenses Participants will be responsible for their travel costs, accommodation and living expenses during the forum.

Forum fee: 270 Bolívares Fuerte (Bs.F) and 63% discount to students.

Workshops fee: Gaël de Guichen: five days long workshop, 645 Bs.F
Nieves Valentín and James Reilly: two days long workshop, 280 Bs.F.

Scholarships: 30 scholarships are available for students and young professionals with less than 3 years work experience. These cover the costs of travel, lodging and the forum fee.

Certificates: Awarded at the close of the forum

Application: Application for participants, abstract proposals and scholarships are available on the website.

FORO del 9 al 12 de Febrero de 2009

Lunes 9 de Febrero

Formalización de Inscripciones 8:00 a 12:00

9:00 a 9:45 Presentación y Bienvenida
Dr. Prudencio Chacón IDEA
Dr. José Luís Ramírez Biolac
Prof. Álvaro González IDEA

9:50 a 10:40 **Prof. Gael de Guichen** *Conservación del Colecciones.* Francia

10:40 a 10:55 Refrigerio

10:55 a 11:15 **Ziva Domingos**, *El manejo y uso sostenible de recursos no renovables: el caso del Patrimonio Cultura.* Angola

11:20 a 11:40 **Mario Omar Fernández**, *El Laboratorio de ciencias naturales en la conservación preventiva del patrimonio cultural colombiano.* Colombia

11:40 a 12:40 Sesión de preguntas y respuestas

1:00 a 2:00 Almuerzo

2:00 a 2:50 **Nieves Valentín** *La Calidad del Aire en Museos. Los Microorganismos como Bio-sensores de Condiciones Ambientales.* España

2:55 a 3:15 **Andrick Francsico**, *Opciones de Registro: Intento para conocer mejor las Colecciones.* Filipinas

3:20 a 3:40 **Ivan Berger**, *Sistema Docente de Conservación Preventiva en la República Checa*

3:40 a 3:55	Refrigerio
3:55 a 4:15	Mario Sanoja, Iraida Vargas <i>La construcción del espacio urbano caraqueño.</i> Venezuela
4:20 a 4:40	William Niño, <i>Ciudad-Museo Auge y caída, visión paradójica.</i> Venezuela
4:45 a 5:05	Sofía Borrego, <i>Los productos naturales como biocidas para el control del biodeterioro del patrimonio documental. Perspectivas e impacto.</i> Cuba
5:05 a 6:05	Sesión de preguntas y respuestas
6:15 a 6:45	Entrega de Diplomas a II cohorte del Diplomado de Conservación Preventiva de conservación de Colecciones
7:00 a 8:30	Brindis inaugural y recepción

Martes 10 de Febrero de 2009

9:00 a 9:20	Susana Meden, <i>¿Es esa nuestra política de conservación?</i> Argentina
9:25 a 9:45	Martina Griesser-Stermscheg, Una Escuela Verano en Conservación de Colecciones para Profesionales de Museos. Austria
9:50 a 10:40	Giancarlo Ranalli, Bio-prevención del Deterioro y Bio-limpiadores de Superficies de Objetos Patrimoniales: Contribuciones de la Biotecnología, Italia
10:40 a 10:55	Refrigerio
10:55 a 11:05	Domingo Álvarez, Musarq, Venezuela
11:10 a 11:30	Mojdeh Momenzadej, <i>Reorganización de depósitos en el Museo de Artes Decorativas, Isafan, Irán</i>
11:30 a 11:50	Luis Alfonso Rodríguez, <i>La conservación preventiva en la tipología de los pueblos andinos merideños: utopías, falsos y realidades.</i> Venezuela
11:55 a 12:55	Sesión de preguntas y respuestas
1:00 a 2:00	Almuerzo
2:00 a 2:50	James Reilly, ¿Es bueno o Malo el Ambiente en Donde se Encuentra mi Colección? EEUU
2:55 a 3:15	David Cohen, <i>El trabajo práctico en conservación preventiva como parte de la formación de restauradores en Colombia</i>
3:20 a 3:40	Maritza Dorta <i>Métodos de diagnóstico del estado de conservación de las colecciones documentales.</i> Cuba
3:45 a 4:00	Refrigerio
4:00 a 4:20	Milagros Vaillant, <i>Reflexiones sobre la actividad de los Microorganismos en las Instituciones que atesoran bienes Culturales.</i> Cuba
4:25 a 4:45	Natalia Candanedo <i>La construcción de una ciudad. Caracas al oro lado del río Guaire.</i> Venezuela
4:50 a 5:50	Sesión de preguntas y respuesta

Miércoles 11 de Febrero de 2009

9:00 a 9:20	Gildardo González, <i>El libro antiguo. Uso y valor patrimonial</i> Venezuela
9:25 a 9:45	Aisha Fadhil Ali, <i>Ciencias Aplicadas al Manejo, Embalaje, Transporte y el Almacenaje de Objetos Culturales.</i> Kenia
9:50 a 10:50	Fernando Diniz Moreira, <i>La Conservación de Arquitectura Moderna: los Desafíos para Latino América.</i> Brasil
10:50 a 11:05	Refrigerio
11:10 a 11:30	Rosanna Kuon, <i>Escalas Simples. Adaptación y aplicación del método en algunos museos de Lima</i> .Perú

11:35 a 11:55 **Fabiola Velasco**, *Gestión Integral del Patrimonio Cultural* Patrimonios Asociación Civil, Caracas, Venezuela

12:00 a 1:00 Sesión de preguntas y respuestas

1:00 a 2:00 Almuerzo

2:00 a 2:50 **Gregorio Valera**, *Memoria, conservación y educación. Una mirada desde la fenomenología.* Venezuela

2:55 a 3:15 **Aleksandra Dzikic Nikolic**, *Desarrollar un programa educativo de conservación preventiva en Serbia.* Serbia

3:20 a 4:00 Sesión de preguntas y respuestas

4:00 a 4:15 Refrigerio

4:20 a 6:00 **Mesas de discusión Arquitectura, Museos y Archivos, Educación**

Jueves 12 de Febrero de 2009

9:00 a 9:20 **Claudia Aranda**, 1ª Etapa del Proyecto del Manejo de colecciones osteológicas en el área de antropología biológica, Museo etnográfico J. B. Ambrosetti. Argentina

9:25 a 9:45 **Franz Grupp**, *El Inventario del Patrimonio Cultural y su importancia.* Perú

9:50 a 10:10 **Luis Guillermo Marciano**, *Apuntes para la valoración y divulgación del patrimonio arquitectónico y urbano integral de la ciudad.* Venezuela

10:15 a 11:15 **Álvaro González** *Un modelo de formación en conservación.* Venezuela

10:15 a 11:30 Refrigerio

11:30 a 12:30 Homenaje Gaël De Guichen y cierre

12:30 a 2:00 Almuerzo

2:00 a 5:00 **Visitas guiadas.**

APPENDIX C - Report on the online storage photo database

How it is organized?

Over 800 didactic images are stored online on a photo archiving website. They have been divided in folders that mirror the storage reorganization methodology. At times, the groups of photos are meant to be purely informative. At other times, they engage the user to reflect on certain steps of the methodology.

Who is it for and who has access?

The database is useful for instructors who wish to create presentations to teach storage reorganization to their students. Otherwise, museum professionals could use it to deepen their understanding of the some of the steps in the methodology.

Presently, only members of the Storage Task Force have administrator access to the database. They can upload new images and modify the existing one with the permission of the moderator (*for 2009: David Cohen, Director, Conservation and restoration of movable heritage programme, Faculty of cultural heritage study, Universidad Externado, Colombia*). In the future, outside people could also be invited as "friends." However, for the time being these will be limited to a minimum, because some of the images might have copyright restrictions.

How can I log on?

All you need to do is go to www.flickr.com and sign in with the User ID: [museumstorage](#) and the password: [reorganize](#). From the main page, click on "my photo stream" and you will have instant access to an impressive collection of images of museum storage situations that have been collected over the last 20 (??) during ICCROM missions worldwide and by the individual members of the Storage Task Force.

Current classification

MUSEUM, BY COUNTRY

- | | |
|-------|-----------------------------------|
| 1.1. | Angola, Luanda ???? |
| 1.2. | Angola, Huila 2003-2005 |
| 1.3. | Austria, Vienna 2006 |
| 1.4. | Benin, Abomey 1992 |
| 1.5. | Côte d'Ivoire, Abidjan 1990 |
| 1.6. | France, Angers 1982 |
| 1.7. | France, St-Germain-en-Laye |
| 1.8. | Ghana, Accra 1989 |
| 1.9. | India, Varanasi 2004 |
| 1.10. | Iran, Isfahan 2008-2009 |
| 1.11. | Italy, Lazio 2007 |
| 1.12. | Madagascar, Antananarivo 1994 |
| 1.13. | Netherlands, Delta Plan 1990-1995 |
| 1.14. | Tunisia, Bardo |
| 1.15. | Zambia, Livingstone 1991 |
| 1.16. | Zimbabwe, Harare 1995 |

2. AGGRESSORS

- 2.1. Effects of aggression (1M4)
 - 2.1.1. Ageing of containers**
 - 2.1.2. Overcrowded units**
 - 2.1.3. Earthquakes (1M4)**
 - 2.1.4. Fire (1M4)**
 - 2.1.5. Water (1M4)**
 - 2.1.5.1. Floods (1M4)
 - 2.1.5.2. Seepage (1M4)
 - 2.1.5.3. Capillarity (1M4)
 - 2.1.6. High humidity (1M4)**
 - 2.1.7. Lack of storage units**
 - 2.1.8. Unprotected collections**
 - 2.1.8.1. Unprotected collections
 - 2.1.8.2. Examples of protection from dust
 - 2.1.9. Untidiness (1M4)**
 - 2.1.10. Non-collection materials & objects (1M4, 1C2, 1B7, 2C1, 2C4)**
 - 2.1.11. Forgotten areas**
 - 2.1.12. Objects stored outside the collections storage (1M4)**
 - 2.1.13. Organic collection with active deterioration (1M4, 2C3)**
 - 2.1.14. Inorganic collection with active deterioration (1M4, 2C3)**
 - 2.1.15. No space for circulation (1M4)**
- 2.2. Exercises on the identification of aggressors

3. MANAGEMENT (M)

- 3.1. Training of staff (2M6)
 - 3.1.1. Handling (2M6)**

4. BUILDING, SPACE & ENVIRONMENT (B)

- 4.1. Surroundings
- 4.2. Fixtures
 - 4.2.1. Electrical circuits**
 - 4.2.2. Fire**
 - 4.2.2.1. Fire detection
 - 4.2.2.2. Central fire suppression
 - 4.2.2.3. Local fire suppression
 - 4.2.3. Theft**
 - 4.2.3.1. Physical Protection – Theft
 - 4.2.3.2. Detection – Theft
 - 4.2.4. Climate**
 - 4.2.4.1. Mobile units
 - 4.2.4.2. Local ventilation
 - 4.2.4.3. Central (A/C)
- 4.3. Openings (1B3)
- 4.4. The Building and Water
 - 4.4.1. Condensation**
 - 4.4.2. Rain & Gutters**
 - 4.4.3. Plumbing & Seepage**
- 4.5. Maintenance

5. COLLECTIONS (C)

- 5.1. Documentation (1C3)
 - 5.1.1. Can inventory be done? (1C4, 2C8)**
 - 5.1.1.1. Access prevented by non-collection (1C8, 2C8)
 - 5.1.1.2. Access causing damage to other objects (1C8)
 - 5.1.1.3. Cases for discussion (1C4, 2C8)
 - 5.1.2. Essential elements of documentation (1C3)**
 - 5.1.2.1. Accessions registry
 - 5.1.2.2. Main index (1C3)
 - 5.1.2.3. Numbering of objects (1C3)
 - 5.1.2.3.1. Different types (1C3)
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- 7.5. Côte d'Ivoire, Abidjan 1990
- 7.6. Ghana, Accra 1989
- 7.7. India, Varanasi 2004
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- 7.9. Madagascar, Antananarivo 1994
- 7.10. Netherlands, Delta Plan 1990-1995
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Simon Lambert
February 2009

APPENDIX D – REPORTS FROM THE STORAGE TASK FORCE



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INTRODUCTION

Following the specialized workshop on storage re-organization which took place at ICCROM in January 2008, the twelve participants committed themselves to continue collaborating with UNESCO and ICCROM in the next two years to complete and develop further the methodology and the related tools.

Formal contact with their respective Directors was established to officially invite them to participate in the ICCROM-UNESCO Storage Task Force and assist ICCROM and UNESCO in implementing the project.

Three working groups were then created to work on the following three specific objectives:

- 1) Refinement of the proposed methodology, reviewing and including missing steps or activities, developing short explanation for each steps or activities;
- 2) Development of an approach to estimate space for collections that could be applied to a variety of collections and storage; and
- 3) Completion of the current list of bibliographic resources compiled by the project and identification of resources that are missing and should be developed.

Each working group has identified a coordinator, clarified the objective of the working team and proposed a work plan.

The working group programmes and results are included in this report.

1 - METHODOLOGY WORKING GROUP PROGRAMME

Team Composition:

- Martijn de Ruijter (Coordinator)
- Mojdeh Momemzadeh
- María del Pilar Salas
- Ziva Domingos

General objective

To develop, from the results achieved by the ICCROM Storage Task Force in January 2008, a common methodology proposal on storage reorganization to be submitted for appreciation during the Evaluation Meeting in January 2009.

Specific objectives

- To review the schemes of the Phase 1 (Condition Report), the Phase 2 (Project) and the Phase 3 (Implementation) proposed by the Task Force;
- To identify critical issues in each phase;
- To include missing steps or activities in each scheme;
- To improve the scheme of each phase;
- To develop a short explanation for each step or activity in the scheme;
- To review and improve the self-assessment questionnaire;
- To design a type of document as guidelines on the storage reorganization methodology

Activities

Period	Activities	Results
July-August	<ul style="list-style-type: none"> • Reviewing the scheme of the Phase 1 • Identifying critical points and missing steps • Improving the scheme • Developing the short explanation for each step • Developing the guidelines of the Phase 1 	<ul style="list-style-type: none"> • Scheme of Phase 1 improved • Explanation for each step developed • Guidelines designed
September-October	<ul style="list-style-type: none"> • Reviewing the scheme of the Phase 2 • Identifying critical points and missing steps • Improving the scheme • Developing the short explanation for each step • Developing the guidelines of the Phase 2 	<ul style="list-style-type: none"> • Scheme of Phase 2 improved • Explanation for each step • Guidelines designed
November-December	<ul style="list-style-type: none"> • Reviewing the scheme of the Phase 3 • Identifying critical points and missing steps • Improving the scheme • Developing the short explanation for each step • Developing the guidelines of the Phase 3 • Improving the self-assessment questionnaire • Finalizing the methodology guidelines proposal 	<ul style="list-style-type: none"> • Scheme of Phase 3 improved • Explanation for each step • Guidelines designed • Self-assessment questionnaire improved • Methodology Guidelines Proposal finalized

OUTCOMES

The team members provide advice and and made comments on the condition reports of the Museums of Iran and Argentina.

The team worked on the refinement of the proposed methodology and the related didactic tools, and in particular achieved the following results:

- Improvement of the Phase 1 Scheme:
- Development of cards for the Phase 1 boxes concerning management and collections
- Improvement of the Phase 2 Scheme
- Collaboration on the development of cards, exercises and support materials for phase 2 by commenting and reviewing the materials produced by Simon Lambert, Canadian intern at ICCROM and Gaël de Guichen.

Please refer to the attached **PROPOSED METHODOLOGY AND RELATED DIDACTIC TOOLS PRODUCED SO FAR.**

2 – ESTIMATING SPACE FOR COLLECTIONS WORKING GROUP

PROGRAMME

This project is conceived as a team work for developing a simple and useful tool for estimating storing space needs, within storage reorganization methodology proposed by ICCROM Storage Task Force, based on available resources and professional experience of its members, in accordance with recognized preventive conservation requirements.

General objective...

...To develop a step-by-step storing space assessment approach that would include such elements of the process as preparing a solid collection database for storing purpose, categorization of collections by types of storing requirement, and calculating space needs, as well as recognize critical points and common mistakes of the process. The approach is to be applicable to various types of collections and storages.

Specific objectives

- Collecting bibliography and other sources of information on the topic
- Creating a list of all the indispensable data for the process of estimating space for collections
- Creating a checklist for ES (what needs to be done prior to defining spatial needs for collections in storage)
- Recognizing common mistakes in planning space for collections
- Recognizing critical points of the process
- Improving existing approaches to estimating space for collections, thus creating a new proposition for calculating spatial needs, more applicable to various types of collections and various storing requirements
- Providing established coefficients/parameters for storing collections in accordance with types of objects and their conservation needs, as well as handling and moving requirements (entry, circulation, storing area for small equipment)
- Further elaborating signalization/markings in the storage, previously proposed by Gaël de Guichen, in the context of occupancy

Working plan

Having in mind the period of time available, we propose the following:

June:

- Collecting bibliography and other sources of information on the topic and sharing professional experience within this field (making it available for the discussion)
- Starting the discussion on categorization of the collections for storing purposes, taking into account existing types of storage units
- Finalizing the discussion on categorization and creating a proposal

July:

- Starting a discussion on data needed for estimating storing space for collections

- Creating a list of necessary data for estimating space, based on the results of previous discussion
- Creating a proposal for packing, padding and support of various types of collections in storage, having in mind various types of storing systems

August:

- Starting a discussion of prerequisites for the estimation of storing space (actions that need to be done prior to estimation)
- Creating a checklist of prerequisites for ES, including questionnaires needed

September:

- Discussion on existing approaches for calculating storing space, disposition of objects in storage, and usable ergonomic parameters for storing purposes
- Creating a proposal for storing space assessment, based on the results of the previous discussion (possibly testing it on a small sample within our own working environments)
- Creating a list of the common mistakes recognized within the process

October:

- Creating a general proposal for the phased approach to estimating space for collections (which might be named differently meanwhile by the "glossary team"), based on all the documents previously prepared and results of the discussions, with special attention to all the critical points recognized

November 2008- February 2009:

- Proposal of a process map/flowchart for estimating space for collections
- Creating a proposal for common approach to calculating storing space requirements.

The beneficiaries of this proposal would be...

...Various types of movable heritage institutions such are museums, archives and libraries, as well as collectors and galleries with storing facilities.

OUTCOMES

In accordance with the programme conceived at the end of May this year, the activities of the ESC Working group in this last period were dedicated to reaching the objectives set. However, due to every-day work of the members as well as other commitments, our work is prolonged. Also, the programme itself has undergone changes, as the discussions showed that some of the objectives should have been merged and others might have not be relevant, or they were simply redefined.

PHASE 1:

- **Collecting bibliography and other sources of information**

As collecting bibliography proved to be time-consuming, we decided to collect information as we go, parallely with the work on categorization of collections.

- **Discussion on categorization of the collections for storing purposes**

First two weeks were mostly dedicated to exchanging information from already available sources, setting the course of reaching the objectives and weekly discussions through skype chat. Discussions were covering a large number of issues concerning categorization of

collections, from listing all existing types of objects, through deciding on most relevant categorization criteria, to proposing the combination of categories that would be most useful for estimating storing needs.

There was also very lively discussion on the type of tools to be produced within our work, in order to clarify the level of assistance that we want to provide for the users. This is where the group concluded that the principle idea should be providing the users (small museums and other similar institutions) with handy tools which could facilitate the process of estimating storing space for collections, and not setting standards or providing the ready-made solutions.

Here are some ideas on categorization discussed by the group:

Ricky:

Flat flexible material that are best stored rolled (i.e. flat textiles, tapestries, rugs etc)

Flat rigid materials that need to be hung (i.e. paintings, bas reliefs, shields, swords)

Three-dimensional Flexible materials that need additional supports to retain their shapes (i.e. hats, baskets, dresses, papier mache, shoes)

Fragile three-dimensional materials that are rigid but could be broken or dented (i.e. porcelain, wooden ethnographic materials, glass, ivory, polychrome etc)

Then group them according to size and weight then by what "aggressors" they are most vulnerable too (light, insects, changes in humidity, air pollution, dust etc..)

Rosanna:

1. Establish the type of collection to store:

- Painting
- Related paper materials
- Ethnographic collection
- Furniture
- Ceramic
- Sculptures
- Textiles
- Glass
- Stone objects
- Others

2. Define a range of size for each category:

- Miniature
- Small (i.e from 10 cm. to 50 cm² or cm³)
- Medium (i.e from 60 to 120 cm² or cm³.)
- Large format (i.e from 130cm up in cm² or cm³.)

Also:

1. Little sensitive (stone, glass, ceramic, metals - all without polichromy)
2. Sensitive materials (polychrome objects, leather, parchment, etc)
3. Very sensitive materials (paintings, polychrome ceramics, specimens,,
4. Extremely sensitive (textiles, drawings on paper, etchings, photographs, etc.)

Another classification according RH:

1. Inorganic materials (metals)
2. Organic materials (textiles, paper, leather, ivory, bones, wood)

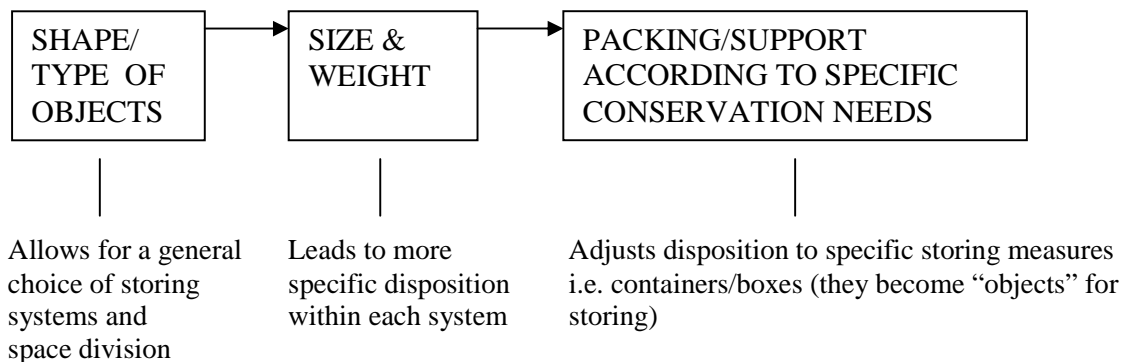
3. Mixed materials (organic and inorganic, like paintings, for example or some sculptures with various materials as found in my country !!).
4. Wet materials
5. Geological specimens
6. Biological specimens
7. Photographic materials
8. Modern information carriers

Ivan:

- flat objects stored in horizontal position (textile, maps, photographs, coins...)
- flat objects stored in vertical position (framed pictures, phonograph records, clothes, long guns...)
- 3D small objects stored in boxes (archaeological objects, instruments, glass vases...)
- 3D large objects stored in shelves (everything what you cannot place in box and is not too heavy or large for shelves)
- 3D extra large objects stored outside the racks with special support (vehicles, statues, engines)

Sasha:

Categorization of collections for storing purposes:



As mentioned before, the group also decided to try and make a list of all the existing types of objects in museum collections worldwide, for two reasons: to be able to create a generally applicable categorization tool for storing, which would include all possible types of museum objects, and possibly to use this list further on as an additional tool for museum workers in organizing storing area. The “types list” is attached to this report as the “doc 1”.

- **Creating a categorization tool**

As the result of the previous discussions and brainstorming, the group came up with an excell sheet categorization proposal (named “doc 2” in the attachment). The excell sheet was used with an idea of creating a template, or at least making the tool as user-friendly as possible. It has now all the elements that we wanted to cover, but it still needs to be polished and simplified, as well as fully applicable for intended use. We left the finalization of this tool for the last phase of our work, when we plan to create a final proposal.

PHASE 2:

- **Discussion on indispensable data for estimating storing space for collections**

We started this phase again by some proposals on indispensable data, trying to think about all the information that would be needed for the ES process:

Ivan/Rosanna:

object		
data	reason	unit/example
object's number	object identification	USF1886
object's name		statue of liberty
dimensions (height, width, length)	how to put in shelves, racks, stands, palettes/ how to put in useable boxes	cm
weight	bearing capacity of shelves	kg
category	for easier space estimation	XXL
support/padding/packaging	can you put it in available boxes /type of box/type of wrapping	palette/plastic wrap
space coefficient	how much extra space it needs	1.3
storing instructions	for easier space estimation (how to store it)	head of statue on the top/next to the rack
handling instructions	for easier space estimation (how to manipulate with it)	pallet truck
optional data:		
picture	object identification	
material	conservation needs (in case we have more then 1 room for storage)	cooper, steel
furniture		
data	reason	unit/example
furniture's number	furniture identification	15R
type of furniture	for better space utilization	rack (stabile)
dimensions (length, width, depth)	for space estimation	cm
number of shelves (height)	for space estimation	5 (each are 30 cm high)
bearing capacity of shelf	how heavy object can I put in this shelf	kg
dimensions of existing furniture to scale	arrangement of furniture in the room	kg
optional data:		
material	in case I have more the one storage room	softwood
room		
data	reason	unit/example
Floor plan to scale 1:50 or 1:100 (minimun)	present situation	cm
bearing capacity of floor	for space estimation	kg
Dimension of the door (s)	for entrance of objects	wide cm
Height of the windows (from the floor if existent)	to place storage furniture	height cm.
Dimension of the aisles	For transit, manipulation and movements	wide cm.

Ricky:

Things Needed by Museums that want to Re-organize Existing Storage Space

When a museum plans to re-organize an existing storage space, it is assumed that the museum does an inventory to check the accuracy of its records in relation to the objects in its collection. (Kindly refer to the inventory process, as it was described by the group and Gael during the workshop)

After the inventory is done and all objects are accounted for, all numbers on the objects are reflected in the records and vice versa, all the unaccessioned objects have been accessioned, all missing objects have been listed as missing, and all unstable objects have been strengthened, then museum should have the following:

Scenario 1: The museum would like to completely rearrange the storage room, and objects need not necessarily be in their former locations / shelving

1. A list of all the objects in the collection that contains the following information that have been checked to be accurate through a recent/updated actual inventory:
 1. Each object's unique number
 2. Each object's simple description of what it is and its distinguishing characteristics or marks (signatures, damages, number of parts)
 3. Each object's simple description of what material it is made from
 4. Each object's maximum dimensions (and if the object has its own container in which it is stored, the measurements of this container)
 5. Each object's weight (optional for most museums but necessary for museums that have heavy objects where weight can be an issue with regard to the shelving weight load capacity. room/floor weight load capacity or elevator capacity)
 6. Pictures of each object (optional but useful)
2. A list of the biggest objects (tallest objects, widest objects) with handling instructions (pictures of these objects would be useful, but not necessary)
3. A list of the heaviest object with handling instructions
4. A list of objects that could be grouped together because of their similar storage needs
5. An inventoried list of the existing furniture that the museum would want to re-use
6. Drawings of all furniture that the museum plans to use (both old ones that will be re-used and new ones that have been bought for the purpose of reorganizing the storage) with the maximum dimensions of each furniture, dimensions of the space between shelving of these furniture, and if the furniture has doors: the direction where these doors open and if they swing outward, the dimensions of the door itself; and assigned numbers that could be found on the drawing and on the furniture themselves
7. A floor plan detailing:
 1. Scaled precise dimensions of the room
 2. Locations where light fixtures are located
 3. Locations where columns or beams are, and their dimensions
 4. Locations of where windows and doors are, with their dimensions

5. Locations of electric sockets and outlets
6. Locations of fixed furniture like air conditioners, vents etc.
7. When appropriate, the maximum weight load that the floor or room could accommodate

Note: A scaled down, 3D version of the room and the furniture that would be used would really be useful during the planning stage when the location of the furniture, the alleys between the furniture and other matters are being decided on. But if this is not possible, cutting pieces of paper scaled to correspond with the floor plan to represent the furniture and the biggest objects in the collection, would suffice.

8. Wall plans (of all walls in the storage area) detailing (for each wall):
 1. The height and width of the wall
 2. Features on the wall such as walls, windows, permanent/fixed appliances and electrical outlets, with their measurements
 3. The height of lighting fixtures
 4. When appropriate, or when the museum plans to screw equipment on the walls, the maximum capacity of the walls for such loads and what screws to use
9. The measurements of transporting equipment such as trolleys, hand trucks, trays etc
10. The measurement of all doors that the collections will have to pass through in order to get to the new storage area.
11. The width of all corridors that the collections will have to pass through in order to get to the new storage area.
12. A timetable / work plan that is agreed upon by all the people who will work during the reorganization
13. Trained personnel to handle and transport the objects
14. Materials for handling, transporting and general reorganizing such as:
 1. At least two sets of gloves that are appropriate for the collection per person
 2. Trolleys, trays and other transport tools/equipment
 3. Measuring tools
 4. Pencils
 5. Paper
 6. Clean rags
 7. Brushes
15. Personnel to guard the objects during handling and transporting and sign off the official inventory when they have accounted for them in their new storage areas.

During discussion on indispensable data, and having done the first attempts to list everything needed for the ES, lot of refreshing conclusions came up, so the group decided to reconsider the starting list of tools to be created, exploring the possibilities of merging the list of indispensable data and checklist for prerequisites (actions to be taken prior to calculating space needs) into one tool that would be created in a form of a flowchart/process map. This further led to some more brainstorming that brought us to the conclusion that there are, obviously, two types of indispensable information for ES process. One group of data would be basic data without which the ES process could not be implemented, and the other one would be the indispensable data that could be obtained through the process itself:

Ivan/Ros/Ricky/Sasha:

STARTING DATA
object
identity/inventory numbers
type/description
dimensions (height, width, length)
weight
optional data:
photo
material
existing furniture
number of existing units (to be reused) by type
dimensions (length, width, depth) with number of shelves (and their length and width if different from dimensions of whole unit)
number of shelves (height)
bearing capacity of a shelf
optional data:
material
room
Floor plan to scale 1:50 or 1:100 (minimum)
section plans of the room (with positions and dimensions of windows and existing fixtures, columns, beams,...)

DATA TO BE OBTAINED IN THE PROCESS

Objects
list of objects by size categories (based on categorization tool)
list of objects to be stored in boxes/containers with overall dimensions (within each size category)
list of objects that need padding/support with overall dimensions (within each size category)
the list of objects with special storing needs (position on shelf, separate unit,...)
handling space coefficient by category of objects
list of the heaviest objects (the ones that don't fit in the load capacity)
list of the largest objects (the ones that don't fit in the
Furniture
number and dimensions of units to be acquired by type (with load capacity needed)
Room
weight load of the floor
scaled plan of the room with disposition of furniture
Dimension of the doors
Height of the windows (from the floor if existent)
Dimension of the aisles in accordance with moving needs (manipulation and equipment dimensions)

In parallel with this, we worked as well, mostly thanks to Rosanna's engagement and suggestions, on collecting resources on packing, padding and support spatial requirements in the context of storage organization, as well as on existing ergonomic standards and coefficients for handling and moving in storage.

TOOL FOR CALCULATING THE COLLECTION VOLUME (by Ivan Berger)

- **Added dimensions** (see page 16)

For calculation or precise estimation of space is necessary to add extra space. This hypothetical space surrounds shape of the object and it is important for padding, handling and correct storing in storing unit. Without this dimension will be estimation very unreal because added space could change object volumes many times (depends on the size of

object). The table shows 6 main categories of collection objects divided by type of unit or way of storing and divided in size categories. Numbers in cells mean extra space of specific dimension on each side of objects. (Below you can find picture with black box inside of grey box. Black box presents object and grey one the hypothetical space which takes object with extra dimensions.) Because is impossible to specify universal added dimensions, each size category (XS, S, M, L, XL) has special added dimensions if it is necessary. In most cases is written a range of added dimension in the cell and any user who will make the calculation choose the size from the range. It depends on real dimensions, specific conditions for object or group of objects. The number in the cell determine the added dimension on one side, so in fact if object has length 7 cm and we determine added length 2,5 cm, it means object will occupy 12 cm ($7 + 2,5 + 2,5$) in the shelf.

This table is working on the assumption that collection objects after reorganization will be stored by principles of preventive conservation. Therefore objects will be placed in general types of recommended furniture, small object in the boxes or drawers. The majority of the objects will be placed in the shelves or on the floor/pallet. Correct storing means that any object must not damage or put it at risk the others and itself and any object must be easy to find and keep.

- **General calculator for collection volume** (see page 17)

This tool is based on sum of indispensable data. Most important are dimensions, but in case is impossible to get this type of information in this phase of project, we use in calculator estimated dimensions for groups of objects. Evidently, the certain extent of uncertainty has to be taken into consideration.

Excel sheet with general calculator is designed for big variety of objects and storing units. Storing volume of object is one of the important results we need for space estimation. In this case is necessary to fill in yellow cells (object dimensions and added dimensions). Added dimensions you find in pdf table. Storing volume takes object volume and extra space surrounding the object.

If you fill in also the dimensions of storing unit you get important information if is object feasible or non-feasible in this type of unit. This calculation is very useful in cases you are not sure if you can fit this object or group of objects in this type of storing unit. ATTENTION!!! You have to fill in object dimensions by the type of storing. It means if you put high statue in the shelf in horizontal way, the height of statue will be length for this calculation purpose.

Last column in the table is usable for storing of small objects in boxes or drawers. It indicates how many object in same or very similar dimensions you can put in the storing unit.

General calculator is only introduction into space calculation. This tool can be used for space estimation of shelves, boxes, drawers and objects on floor. The rest of objects which are stored in different ways needs corrections. Therefore we prepared tools for space calculation in specific types of storing unit.

- **Shelf1 (100 X 30 X 30 cm)** (see page 17)

As a first example of concrete space calculation we prepared a simulation of space calculation for objects stored in the shelf with certain dimensions. Therefore will be useful divided collection objects in groups according to types of furniture.

This table is more user-friendly, because you have to fill in only 6 (yellow) cells with object and added dimensions.

Results in blue cells are based on calculation of storing volume and storing surface. Storing surface is the area on the storing unit (e.g. shelf) which is covered by object with extra dimensions. There is cell which determines if you can fit the object in this type of furniture. (If

you find the object or group of objects which are non-feasible, you have to find other type of storing unit or way of storing.)

Next column sets numbers of same or similar objects you will fit in box or drawer. Last calculation tool – rough estimation of numbers of storing units – indicates in how many shelves you can keep whole list of objects in certain storing unit type. This calculation is based on simple comparison of total storing surface and surface of storing unit. The result of this calculation is very rough because excel sheet cannot optimize real storing of object in the unit.

ADDED DIMENSIONS

		Extra small 0 - 7 cm			Small 8 - 30 cm			Medium 31 - 60 cm			Large 61 - 200 cm			Extra large more than 200 cm			
		AL	AW	AH	AL	AW	AH	AL	AW	AH	AL	AW	AH	AL	AW	AH	
shelves and drawers	Flat	1	1	0 - 1	1 - 2,5	1 - 2,5	0 - 1	1 - 2,5	1 - 2,5	1 - 2	2 - 4	2 - 4	1 - 2	2 - 4	2 - 4	1 - 2	
	3D	1	1	1	1 - 2,5	1 - 2,5	1 - 2	1 - 2,5	1 - 2,5	1 - 2	2 - 5	2 - 5	2 - 4	2 - 5	2 - 5	2 - 4	
sliding racks					2 - 3	2 - 3		3 - 5	3 - 5		5 - 8	5 - 8		8	8		
books		* books and boxes stored like books - estimate in linear meters according to width of the book (do not forget the height of books and shelves)															
floor		** heavy collection objects should be stored on the pallet, supported material as stand can stay directly on the floor, height should not be higher than the height of															
wardrobes					2	1 - 2		2	1 - 2		2	1 - 2					

*** added dimension - distance between edge of object and hypothetical edge of space needed for safe and usable storing in different types of storing types

**** textiles and similar material stored on rolls - estimate as a 3D object (length depends on the width of object) - needed space depends on shape and quantity of roll

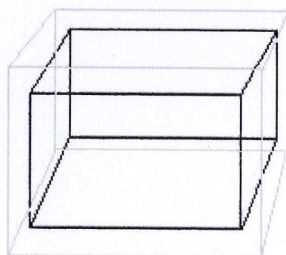
***** all objects stored in box or in shelves have same added dimensions for this purpose

key:

AL - added length

AW - added width

AH - added height



CALCULATOR FOR COLLECTION VOLUME

	Item	object name	object dimensions [cm]			added space [cm]			storing volume [cm ³]	storing unit dimensions			Is possible to fit object in this unit?	If yes, how many times?
			length	width	height	added length	added width	added height		length	width	height		
	1	ring	4	4	1	1	1	0,5	72	27	15	12	feasible	67,5
	2	vase	15	15	25	2	2	2	10469	100	30	30	feasible	8,59681
	3	tape recorder	30	28	10	2	2	2	15232	100	30	30	non-feasible	5,908613

Shelf1 - 100 x 30 x 30 cm

	Item	object No	object name	object dimensions [cm]			added space [cm]			storing volume [cm ³]	storing surface [cm ²]	Is possible to fit object in this unit?	If yes, how many times?	Rough estimation of numbers of storing units
				length	width	height	added length	added width	added height					
	1	223/2009	glass	10	10	25	2	2	1,5	5488	196	feasible	16,39942	
	2	125/2009	vase	15	15	25	2	2	2	10469	361	feasible	8,59681	
	3	348/2009	tape recorder	30	25	10	2	2	2	13804	986	feasible	6,519849	
	4	566/2008	sword	70	18	5	3	3	2	16416	1824	feasible	5,482456	
	5	457/2009	wooden sculpture	45	14	20	2	2	2	21168	882	feasible	4,251701	
	6	468/1999	skull	20	23	18	2	2	2	14256	648	feasible	6,313131	
	7	2534/1998	beer bottle	8	8	21	1,5	1,5	1	2783	121	feasible	32,3392	
	8	937/2006	pistol of Simon Bolivar	31	16	6	2	2	2	7000	700	feasible	12,85714	

3 – LITERATURE AND GUIDELINES WORKING GROUP

PROGRAMME

Objectives

- To complete the current list of potential bibliographic resources compiled by the UNESCO-ICCROM project, according to the topics included in the methodology (developed during the workshop, Building, Furniture, Collections, Procedures and processes)
- To review the available resources and prepare annotations to the users to tell them why and how the resource is usable in the process/methodology
- To respond to the needs of the other groups (*Estimating Space for Collections & Methodology*) and identify where the resources are missing and should be developed)

Work plan of Activities

Activity	Month 2008
1. Need to go through ICCROM list (already prepared bibliography on storage aspects)	July
2. Input Discussion and agreement on the languages for the bibliography	July
Discussion with other groups on their needs and missing gaps in the literature	July
Output Preparation of a list of languages for the list of the bibliography	July
Preparation of list on the needs of other groups	July
3. Input Discussion and agreement on the sources where the potentially useful bibliography sources on storage can be identified	August
Output A list of the sources where the potentially useful literature can be gathered	August
Preparation of list and distribution to members of group.	August
4. Input Discussion and agreement on each members topic of preference (identified from workshop) to gather literature, prepare bibliography and the annotations	August
Output	August

Preparation of list of members choice of topics to prepare bibliography and annotations	August
5. Input Discussion and agreement between group members on the factors to consider when gathering the literature and preparation of the annotations: e.g rating of the literature, case study application, format, style, category of literature, author/source and contents	August
Output Preparation of a list of considerations for gathering literature and preparation of the annotations.	August
6. Input Each member prepares and collates their materials as above. Discussion and review of all materials gathered by all group members	September-October
Output Preparation of a document that outlines a list of the potentially useful bibliography as identified by the group members and their respective annotations	November
Circulation of this list to group members	November
7. Input Discussion and review on the materials put together. Omit duplications or non-relevant materials. Final agreement on the potentially useful literature and their annotations	November
Output Preparation of list of this bibliography and distribution to members in group for any further comments	November

OUTCOMES

LITERATURE SUPPORTING THE METHODOLOGY FOR STORAGE RE-ORGANIZATION

HOW TO START

Overall visit

Stefan Michalski, Care and Preservation of Collections, in: Running a museum. A practical handbook, ICOM – UNESCO 2004, pp. 51-89.

With this article Stefan Michalski provides many helpful tools for you. How to survey from the outside to the inside? What exactly am I looking for? How to take good pictures? How to survey invisible facts? Checklists and much other information are offered. Don't miss to read this basic article when you start your project!

Free pdf.-download: <http://unesdoc.unesco.org/images/0014/001410/141067e.pdf>

Watch your step

Agnes Brokerhof (et.al.), Buggy Biz and Fluffy Stuff. Integrated Pest Management in Collections and Control of Mould in Archives, Amsterdam 2007

This easy readable book is a good starting point for everybody to learn about risks, which can be caused by insects in storage. The appendix gives nice illustrations, which help to identify the most common insects in our collections. Learn more about the world of insects to understand certain damages in your collection and the building envelope. Please make sure to know about health risks for you and your staff members in the presence of mould in your storage. This book will help you to recognize certain symptoms and how to protect yourself.

CCI Note N3/2 Detecting Infestations: Facility Inspection Procedure and Checklist (1996)

How to recognize and detect pest activity? A procedure for inspection is provided, gathering required drawings of building interior and exterior, assembling an inspection kit. Suggestions are made regarding building details that warrant attention during an inspection (exterior of building, interior of building, basement, main and upper floors, attic, roof), sanitation, and pest control equipment.

Mould Outbreak: An Immediate Response

This online-paper, published by the Canadian Conservation Institute, outlines a general course of action to deal with a mould infestation in a museum or library collection. It is intended as a guide to help with immediate decisions and first steps to control the infestation and to protect people and the collection. Protection equipment is also described.

Free web-source: <http://www.cci-icc.gc.ca/crc/articles/mould-moisissures/index-eng.aspx>

N15/3 Display and Storage of Museum Objects Containing Cellulose Nitrate (1994)

Objects which were made of cellulose nitrate can, in some specific cases, tend to auto-ignition. Recommendations for storage include segregation and ventilation, environmental control, condition monitoring and installing appropriate fire prevention systems.

Create your team

Neal Puff and Sarah Slade, Teamwork for Preventive Conservation, ICCROM 2003

This ICCROM-manual outlines an approach to introducing teamwork to improve preventive conservation in museums. It is based on the experiences of eleven museums from nine European countries.

Free pdf.-download: http://www.iccrom.org/pdf/ICCROM_01_Teamwork_en.pdf

Communication

Fischhoff B. (1995) Risk Perception and Communication Unplugged: Twenty Years of Process. Risk Analysis. Ed J. Kitzinger. Vol. 15. No. 2, 1995. Society for Risk Analysis.

Fischhoff (1995) outlines many important aspects to be considered during communication. He explains: "Communication is information that is relayed through the proper channels. Communication should tell people things that they need to know."

Keene Suzanne (2002), Managing Conservation in Museums, 2nd edition Butterworth Heinemann, United Kingdom 2002

Suzanne Keene's book "Managing Conservation in Museums" is a MUST for everybody who tries to get familiar with communication and management skills in a museum. In one of the pages she explains that "information is only as useful as what it contains and when you tell people what it is".

People, Communication, Culture, Decision Making and Motivation: Kio-dynamics: The special Interest Group, Institute of Risk Management

Kiodynamics (2005) explains communication as the key to effective risk management and that poor communication may result in organization failures or missed opportunities. According to them communication is an incorporated element of awareness, training and corporate risk culture.

Free web-source: www.kiodynamics.co.uk/overview.htm

Phase 1 - WRITING THE CONDITION REPORT

1M Management

Keene, S. 1991. Audits of care: a framework for collections condition surveys. Storage. Preprints for UKIC conference, Restoration '91. London, U.K. 6-16.

Condition surveys are undertaken in order to assess the collections conditions as a whole, rather than to identify individual objects requires. Suzanne Keene introduces a methodology for assessing the condition of a museum collection.

Kingsley H. and Payton (1994) Conditions surveying of large, varied stored collections. Conservation news 54 pp 8-10 UKIC London

We don't have this article, but it sounds useful.

Hernández Romero, Pilar, La administración de colecciones: una herramienta para la conservación de bienes culturales, Mexico 2005

A new standard-book in Spanish!

1M2 Gather information on the history of the storage

Tim Padfield (2008), Why keep climate records – and how to keep them

This is a review of ways and strategies how and why to record the environment of your collection. The article is illustrated by Tim Padfield's drawings. Amusing to read and to distribute to your team members.

Free pdf.-download:

http://www.nationalmuseet.dk/graphics/konferencer_mm/microclimates/pdf/padfield.pdf

Daniel Vinod, Insect control: a total approach for small and remote museums in the Tropics, in: Integrated pest management for collections: proceedings of 2001, a Pest Odyssey. London 2001, pp. 76-80.

Insects are one of the biggest problems for small cultural institutions in tropical countries. This report compiles a number of practical preventive steps that can be part of an integrated pest management (IPM) plan for small museums. It also lists a number of nontoxic and low-toxicity solutions that can be practically implemented by small museums.

1B3 Gather information of the museum building

Bordass, B. 1996. Museum Collections in Industrial Buildings. Cassar, May. Ed. London: Museum & Galleries Commission [online].

Very user friendly. Good checklists. Even though it is intended for industrial buildings, provides good advice for all types of buildings.

1B5 Gather information on storage area and its condition

CCI Notes N1/1 Precautions for Storage Areas (2002), Canadian Conservation Institute

A basic introduction. Topics include: choice of best storage location; common threats including water leaks and improper climate, recommended procedures and practices for proper maintenance and safety; basic guidelines concerning environmental conditions, safety, and security.

1C Collections

CCI Preservation Framework Online

Never without the Preservation Framework! The popular poster as online-edition in English, French and Spanish

www.cci-icc.gc.ca/tools/framework/index_e.aspx

Rebeca Alcántara, 2002. Standards in Preventive Conservation: Meanings and Applications

This ICCROM-report shows how to define your own standards in a non-western museum. Find out how to apply standards in the way they fit to your specific context.

Free pdf.-download: http://www.iccrom.org/eng/02info_en/02_04pdf-pubs_en/ICCROM_doc04_StandardsPreventiveConser.pdf

1C4 Gather information on, and evaluate the basic documentation system

Harrison, M. and McKenna, G. 2008. Documentation: a practical guide. Cambridge: Collections Trust.

Really well done! Easy to follow and very user friendly.

National Parks Service. 2000. Chapter 3: cataloguing. In: NPS Museum Handbook II

<http://www.nps.gov/history/museum/publications/handbook.html>

A good introduction to documentation systems. Contains sample index cards for different types of collections and sample accessions register pages. Also contains suggestion for classifying cultural and natural history collections. Warning: what they call "catalogue number" is actually the accession number. Quite simple and user-friendly.

Phase 2 - WRITING THE REORGANIZATION PROJECT (action plan)

- Management

2M2 Determine the role of storage with respect to the mission statement

Kate Starling, Colin Manton, Using reserve collections as a resource, in: ???

I only have the copy of this nice article, but without the source.

Making reserve collections more accessible offers benefits for the visitors, the museum and the collections, think Kate Starling and Colin Manton. A short, but well informing article.

Suzanne Keene, Fragments of the world. Uses of Museum Collections, Oxford 2005

An exciting book to rethink the “use” of your storage! A storage is not only a storage: You can change it to an “open storage” and make it visible for the museum visitors, like many museums did in the last years. Use your resources and get inspired by Suzanne Keene and her rich collection of case studies from around the world.

Simmons, J. E. 2006. Things Great and Small: collections management policies. Washington D. C.: American Association of Museums.

A good overview of all types of museum policies. Contains many examples and case studies. Many other museum management tools and frameworks are also reviewed and included as appendices.

Malaro, M. Collection management policies. 1995. In: Fahy, A. ed. Collections Management. London: Routledge, 11-28.

An excellent review of what a collections policy should contain.

2M6 Organize training for team members including teamwork

Boylan, P. and Wollard, V. 2006. Running a Museum: The trainer’s manual. Paris: Unesco

Free pdf.-download: <http://unesdoc.unesco.org/images/0014/001478/147869E.pdf>

The Trainer’s Manual for use with *Running a Museum: A Practical Handbook* has been produced by ICOM at the request of UNESCO to guide those who are using it as a core textbook in museum training.

Blyth, Valerie, Training for museum staff is a prerequisite for successful insect pest management. In: Integrated pest management for collections: proceedings of 2001, a Pest Odyssey. Kingsley, Helen; Pinniger, David (2001), pp. 44-50

Read a case study about a successful training programme for the staff, curators and conservators, from the Victoria & Albert Museum in London. The article shows that the development of a successful integrated strategy and the development of insect pest training go hand in hand.

2M8 Revise/write procedures for storage management

Dorge, Valerie, and Sharon L. Jones, compilers, Building an Emergency Plan: A Guide for Museums and Other Cultural Institutions. Los Angeles: The Getty Conservation Institute, 1999.

Free pdf.-download:

http://www.getty.edu/conservation/publications/pdf_publications/emergency_plan.pdf

This book is designed to guide an institution and its staff through the process of developing a team-based emergency preparedness and response program, which results in the creation of an emergency plan and regular procedures to avoid emergency situations.

- Building & Space

2B9 Plan the building and space upgrade of the storage department and museum building

Wilcox U. V. (1990) Managing museum space, in Keene: (ed) Managing conservation UKIC London, 7-10

Good space management provides the proper care and preservation of museum collections. The recent experiences of the Smithsonian Institution in the development of a space management program, including functional definitions for space and facility services, are enumerated.

Cumberland, Donald R., Jr., Determining museum storage space requirements. Pamphlet. Conservation, 4/11. United States. National Park Service (1997)

This leaflet provides three institutional storage scenarios--no centralized storage area, a central storage area developed without a preconceived layout, and a planned central storage area which is now overcrowded--and explains how to determine space and equipment requirements for each and how to develop a layout.

Bordass, B. 1996. Museum Collections in Industrial Buildings. Cassar, May. Ed. London: Museum & Galleries Commission

Online: http://www.ucl.ac.uk/sustainableheritage/MC_industrial_buildings.pdf

Very user friendly. Good checklists. Even though it is intended for industrial buildings, provides good advice for all types of buildings.

Ganiaris, Helen; Starling, Kate, Up to standard: planning the needs of an archaeological archive, in: Archaeological conservation and its consequences: preprints of the contributions to the IIC Copenhagen congress, 26-30 August 1996, London 1996, 55-58

Interesting case study about the planning process of the archaeological storage of the Museum of London. The museum's Conservation Department is setting standards for study and long-term care.

Dexter Lord, G. and Lord, B. 2001. Introduction. In: Dexter Lord, G. and Lord, B. eds. The Manual of Museum Planning. Lanham: AltaMira, 1-20

An excellent overview of museum project planning. Contains many useful diagrams

Marie Vest, Ulla Bogvad Kejser, Christian Bruun, New long-term storage facilities at the Royal Library, Denmark – storage requirements for mixed collections, in: 15th triennial conference, New Delhi, 22-26 September 2008: preprints/ICOM Committee for Conservation. Bridgland, Janet (Editor). ICOM Committee for Conservation (2008), pp. 808-814

Describes the course of the planning phase for the building project of a new storage at The Royal Library in Copenhagen, Denmark. The authors illustrate the pitfalls and dilemmas conservators and building engineers face when seeking to balance the preservation goals against the economic costs of a building project.

- Collections

2C2 Finalize classification of the collection

CIDOC. 1995. International Guidelines for Museum Object Information: The CIDOC information categories. Paris: CIDOC.

Online: <http://cidoc.mediahost.org/guidelines1995.pdf>

Dry to read, but very useful to clarify and agree on definitions in the classification process.

National Parks Service. 2000. Chapter 3: cataloguing. In: NPS Museum Handbook II Online: <http://www.nps.gov/history/museum/publications/handbook.html>

A good introduction to documentation systems. Contains sample index cards for different types of collections and sample accessions register pages. Also contains suggestion for classifying cultural and natural history collections. Warning: what they call "catalogue number" is actually the accession number. Quite simple and user-friendly.

Reibel, Daniel B, Registration methods for the small museum, 4th ed., Alta Mira Press 2008

Oldy, but goldy. See the brandnew edition from 2008.

2C8 Prepare the inventory

Fernandez, N., Labelling artefacts to museum standards, in: IPCRA Journal, Spring 2005, 27-29

Discussed in this article are materials to avoid; positioning of labels and marks; the selection of an appropriate method; basic techniques; marking packaging or supports; labels for storage; and the convenience of creating labelling and marking kits.

National Parks Service. 2000. Chapter 4: Inventory and other special instructions. In: NPS Museum Handbook II

Online: <http://www.nps.gov/history/museum/publications/handbook.html>

Contains advice for conducting an inventory and the related procedures, documenting object location. Sections I-III are the most useful. Also of interest is Section IX about determining the monetary value of museum objects. Warning: what they call "catalogue number" is actually the accession number. Quite simple and user-friendly.

Townsend, Joyce, Labelling and marker pens, in: Conservation news 42/1990, 8-10

Commercial marking pens and inks were tested for labelling museum objects.

Fenn, Julia, Labelling plastic artefacts, in: Symposium '91: saving the twentieth century; the degradation and conservation of modern materials, Ottawa 1993, 341-350

Many informations in this article are not only useful for labelling plastics, but also other materials.

2C6 Determine preventive conservation requirements for group of objects

National Trust, Manual of housekeeping, Oxford 2006

A good starting point to get an overview for nearly each material and its environmental requirements in our collections. Over 900 pages, written by many experienced conservators.

Lavédrine, Bertrand, A guide to the preventive conservation of photograph collections, Los Angeles 2003

A "Must", if you house photographs in your collection! You will learn a lot about your collection.

Robinson, Jane; Pardoe, Tuula, Scottish Museum Council, An illustrated guide to the care of costume and textile collections, London 2000

Everyone knows: Textiles are fragile. Easy descriptions and many illustrations show how to care for textiles in storage. Especially students and people, who are not experienced with textiles, like it and get incredible inspired by this book.

Electronic Media Collections Care for Small Museums and Archives

www.cci-icc.gc.ca/headlines/electmediacare/index_e.aspx

Help yourself with this online-brochure! (in English and French)

Recognizing Metals and their Corrosion Products in museum collections for non-conservators

www.cci-icc.gc.ca/headlines/metalbrochure/index_e.aspx

Help yourself with this online-brochure! (in English and French)

STORAGE OF NATURAL HISTORY COLLECTIONS: A PREVENTIVE CONSERVATION APPROACH. VOLUME I/ ROSE CAROLYN K; HAWKS, CATHERINE A.; GENOWAYS, HUGH H. IOWA CITY: SOCIETY FOR THE PRESERVATION OF NATURAL HISTORY COLLECTIONS 1995; X P448: ILL; 28CM
Annotation from the ICCROM list

REHOUSING OF PRINT COLLECTIONS AT THE BRITISH MUSEUM: THE WILLIAM BLAKE POST BINDER PROJECT AND OTHER RECENT APPROACHES/ RAYNER, JUDITH. IN: THE PAPER CONSERVATOR VOL. 27, 2003, P35-45, ILLS.
Annotation from the ICCROM list

2C7 Estimate volume of collections with their padding and support

Walston, Sue; Bertram, Brian, Estimating space for the storage of ethnographic collections, in: Preventive conservation: symposium on the conservation and restoration of cultural property, Paris 8-10 October 1992, Paris 1992, 137-144

A difficult thing to do: Estimating space. In this popular article a formula is given to calculate the volume of space needed in a storage area. But find out yourself if it helps.

- Furniture

2F1 or 2F6 Evaluate existing furniture / Identify boxes...

National Parks Service. 1998. Modifying museum storage cabinets. Conserve O Gram 4(13)

Online: <http://www.nps.gov/history/museum/publications/conservoogram/04-13.pdf>

Some practical guidelines for a very specific situation, but useful ideas nonetheless. Very user friendly.

National Parks Service. 1997. Determining storage equipment needs. Conserve O Gram 4(10)

Online: <http://www.nps.gov/history/museum/publications/conservoogram/04-10.pdf>

Useful guidelines of a general nature. Very user-friendly.

Larkin, Nigel R.; Makridou, Elena; Comerford, Gill, Plastic storage containers: a comparison, in: The conservator 22/1998, 81-87

A study was undertaken to test the performance of both old polyethylene and new polypropylene Stewart containers together with alternatives. Comment on criteria for choice of container, including long-term stability, is also given.

PreservArt. Materials for preventive conservation

<http://preservart.ccaq.mcc.gouv.qc.ca/index.aspx>

A great source to find out about materials in preventive conservation worldwide. Don't miss this database! (in English and French)

Thickett, D.; Lee, L. R., Selection of materials for the storage or display of museum objects, Occasional paper 11 (British Museum), London 2004

You might know this popular paper already (published 1996), which is offered by conservators and scientists from the British Museum, but 2004 it was completely revised! Make sure to have a look.

Köhnlein, Rainer, Überblick zur Depotausstattung mit Beispielen aus der Praxis, in: Das Museumsdepot, München 1998, S. 81-98

Even if you don't speak German, this article shows nice illustrations and pictures from different ways of using furniture in small and middle-sized museum, without buying an expensive compactus.

Martina Griesser et. al., Development and in-depth testing of standard packing solutions for collections and museums, in: 15th triennial conference, New Delhi, 22-26 September 2008: preprints/ICOM Committee for Conservation. Bridgland, Janet (Editor). ICOM Committee for Conservation (2008), pp. 743-750

Summarizes the results of a research project on the development of packing solutions for storage areas lacking air conditioning. Covers practical tests on packing a broad variety of objects, from small metal jewellery to whole carriages, in different plastic foils.

Annotations from ICCROM-list, TO BE ADDED

POLLUTANTS IN THE MUSEUM ENVIRONMENT: PRACTICAL STRATEGIES FOR PROBLEM SOLVING, EXHIBITION AND STORAGE/HATCHFIELD, PAMELA B., LONDON: ARCHETYPE PUBLICATION, 2002; XI P203: TABLES; 27,5CM

COATINGS FOR DISPLAY AND STORAGE IN MUSEUM/TETRAULT, JEAN, IN: CANADIAN CONSERVATION INSTITUTE TECHNICAL BULLETIN, N. 21 1999, P 1-46 FIG TABLES

DESIGN/IDENTIFY SPECIFIC STORAGE CONTAINERS – 1F1
STORAGE OF NATURAL HISTORY COLLECTIONS: IDEAS AND PRACTICAL SOLUTIONS VOL. II ROSE CAROLYN L. (ED) TORRES, AMPARO, R. DE (ED), IOWA CITY: SOCIETY FOR THE PRESERVATION OF NATURAL HISTORY COLLECTIONS 1995; XVI, 346: ill., FIG; 28CM

REHOUSING A COLLECTION OF ARCHAEOLOGICAL TEXTILES/ PEACOCK, ELIZABETH E., GRIFFIN, ELIZABETH. IN: THE CONSERVATOR, N. 22 1998, P. 68-80, FIG., TABLES

THE PRESERVATION OF DETACHED MOSAICS: ADDRESSING STORAGE AND TRANSFORMATION PROBLEMS RESULTING FROM THE LARGE –SCALE RE-DEVELOPMENT OF THE CENTRAL DISTRICT

OF BEIRUT/ SKAF, ISABELLE,; ROBY, THOMAS. IN: LES MOSAIQUES: CONSERVER POUR PRESENTER? VIIEME CONFERENCE DU COMITE INERANTION POUR LA CONSERVATION DES MOSAIQUES, 22-28 NOVEMBRE 1999, ARLES, FRANCE: ACTES/ BLANC, PATRICK (ED); BLANCE-BIJON, VERONIQUE (ED). COMITE INTERNATIONAL POUR LA CONSERVATION DES MOSAIQUES = INTERANTIONAL COMMITTEE FOR THE CONSERVATIONOF MOSAICS (ICMM) ARLES: S.N 2003, P.221-228, ILLS, CONFERENCE OF THE INTERNATIONAL COMMITTEE FOR THE CONSERVATION OF MOSAICS, 7, ARLES, FRANCE, 1999

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