IIC and ICOM-CC 2014 Declaration on environmental guidelines

The conservation profession has come together and agreed a position on environmental guidelines as follows:

**Sustainability and management**

The issue of museum sustainability is much broader than the discussion of environmental standards, and needs to be a key underlying criterion for future principles.

Museums and collecting institutions should seek to reduce their carbon footprint and environmental impact to mitigate climate change, by reducing their energy use and examining alternative renewable energy sources.

Care of collections should be achieved in a way that does not assume air conditioning (HVAC). Passive methods, simple technology that is easy to maintain, air circulation, and lower energy solutions should be considered.

Risk management should be embedded in museum management processes.

**Museum environment**

It is acknowledged that the issue of collection and material environmental requirements is complex, and conservators/conservation scientists should actively seek to explain and unpack these complexities.

Guidelines for environmental conditions for permanent display and storage should be achievable for the local climate.

**Loans**

There needs to be flexibility in the provision of environmental conditions for loans from museums which have climatic conditions different from the setpoints in the guidelines. This may be achieved with alternative strategies such as micro-climates.

**Existing guidelines**

The existing interim guidelines agreed by AIC, AICCM, the Bizot group etc. (see below) should be guidelines not interim guidelines. It is noted that these guidelines are intended for international loan exhibitions.

**Bizot Interim guidelines for hygroscopic materials**

For many classes of object[s] containing hygroscopic material (such as canvas paintings, textiles, ethnographic objects, or animal glue) a stable RH is required in the range of 40–60% and a stable temperature in the range 16–25°C with fluctuations of no more than ±10% RH per 24 hours within this range.

More sensitive objects will require specific and tighter RH control, depending on the materials, condition, and history of the work of art. A conservator’s evaluation is essential in establishing the appropriate environmental conditions for works of art requested for loan.

The AICCM recommended Interim Temperature and RH Guidelines for acceptable storage and display conditions of general collection material are:

- **Temperature** — between 15 and 5°C with allowable fluctuations of ±4°C per 24 hr.
- **Relative Humidity** — between 45 and 55% with an allowable fluctuation of ±5% per 24 hr. Where storage and display environments experience seasonal drift, RH change to be managed gradually across a wider range limited to 40–60%. Temperature and RH parameters for preservation of cultural materials will differ according to their material, construction, and condition, but stable conditions maintained within the parameters above are generally acceptable for most objects.

AIC Interim Guidelines endorsed by the Association of Art Museum Directors:
For the majority of cultural materials, a set-point in the range of 45–55% RH with an allowable drift of ±5%, yielding a total annual range of 40% minimum to 60% maximum, and a temperature range of 59–77°F (15–25°C), is acceptable.

**Fluctuations must be minimised**

Some cultural materials require different environmental conditions for their preservation.

Loan requirements for all objects should be determined in consultation with conservation professionals.
The IIC/ICOM-CC 2014 Declaration on Environmental Guidelines — What was achieved?

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The 2014 ICOM-CC and IIC Conferences both included plenary sessions on environmental conditions, resulting in the IIC/ICOM-CC 2014 Declaration on Environmental Guidelines. This paper reflects on the achievements of the Declaration, issues that arose during its writing, and what it does and does not seek to address.

Keywords: Preventive conservation, Environmental standards, Temperature, Relative humidity

Studies in Conservation Volume 59 No 4 was a themed edition focusing on Environmental Standards and Monitoring. It was particularly planned for publication in July 2014 to provide updated background information and maximise the opportunity that the two back-to-back international conservation conferences in 2014 provided for advancing the debate on appropriate environmental conditions for international loan exhibitions and permanent display and storage and energy saving (ICOM-CC Melbourne September 15–19 and IIC Hong Kong September 22–26).

This was recognised early in the conference planning stages by the IIC/ICOM-CC Working Group on environmental conditions. As a result, through approaches by the Working Group to the organising committees of both conferences, it proved possible to include in both programmes a plenary session where the issues arising in the debate could be discussed. The Working Group recognised that the best way to structure such a session was to create and present a declaration for the conference delegates to respond to. This declaration would be prepared in draft form, and circulated to delegates prior to the plenary sessions. The declaration would be prepared in the sessions along with commentary from a panel of experts, and opportunities for response would then be provided both directly in the sessions and by email. In addition a comments box would be provided in Hong Kong. The responses received both directly and indirectly would then be considered and incorporated in the development of the final form of the declaration, which would be jointly published on the IIC and ICOM-CC websites.

This process was implemented in both Melbourne and Hong Kong. In Melbourne the panel was chaired by Vinod Daniel, ICOM-CC Directory Board member, and consisted of Sarah Staniforth, President of IIC; Julian Bickersteth, Vice-President of IIC and coordinator of the IIC/ICOM-CC Working Group on environmental conditions; Lisa Pilosi, Chair of ICOM-CC; Luiz Souza, Federal University of Minas Gerais, Brazil. In Hong Kong, the panel was chaired by Sarah Staniforth, President of IIC, and comprised Jo Kirby Atkinson, Secretary-General, IIC; Julian Bickersteth, Vice-President, IIC; Vinod Daniel, Directory Board member ICOM-CC; Dr Lynne DiStefano, Adjunct Professor of the Architectural Conservation Programmes, Faculty of Architecture, The University of Hong Kong; Dr Jirong Song, Deputy Director of Palace Museum, Beijing and Director of the Conservation Department; Jerry Podany, President-Emeritus, IIC; Richard Wesley, Director of the Hong Kong Maritime Museum; and Dr Junchang Yang, Director of Shaanxi Provincial Institute for the Conservation of Cultural Heritage.

The resulting declaration is attached at the end of this paper, and the debate which took place in Hong Kong is detailed in the paper in this edition of Studies in Conservation by Jo Kirby Atkinson (Atkinson, 2015).

This paper discusses the issues arising from the writing of the Declaration, and the dialogue which was generated by its creation.

In particular, it examines the following key points:
- Achievement of the Declaration
- Loans versus permanent display and storage
- Evidence-based decision making
- Existing Guidelines

Achievement of the declaration

Declarations at the conclusion of conferences can be cynically viewed as merely feel-good documents which allow delegates to leave feeling they have achieved something during the past few days of professional and social
Museum environment: The complexity of providing appropriate environmental conditions for collections, during international loan exhibitions and on permanent display and storage.

In this context, it is worth looking at the key points it makes, as follows:

- **Sustainability and management:** Decisions about appropriate environments for collections need to be made in the context of the broader debate on sustainability. Issues of climate change and energy use cannot be ignored when providing professional advice on collection environments.

- **Museum environment:** The complexity of providing appropriate environmental advice for collection care is acknowledged, particularly when moving away from the one-size-fits-all $20^\circ C$ ($70^\circ F$)/50% relative humidity (RH) rule. The dilemma facing conservators who are being pulled in different directions is examined in Bickersteth (2014), Atkinson (2014) and Staniforth (2014). What the Declaration identifies is that conservators have not been good at unpacking and communicating these issues to the wider museum audience as they have been too caught up with internal debate. The Declaration seeks to move the discussion forward by getting conservators to focus on communicating the issues that need to be addressed, whilst acknowledging that they have not been fully resolved within the profession.

- **Loans versus permanent display and storage:** The Declaration seeks to clarify that there needs to be a clear division between the environmental requirements for those artworks and objects being considered for loan and those being held in permanent collections. The former are likely to be moving from one environment to another and are therefore more vulnerable to damage through change of environment. Conversely objects being displayed or stored in the owning institution, which the institution has been able to monitor and observe over a period of time, and in a space in which the institution has direct control over the climate, can be approached in a different manner with far more knowledge and taking into account the local climate. This issue is discussed in more detail below.

- **Existing guidelines:** The Declaration noted that interim guidelines had been issued by, amongst other groups, the Bizot Group, AIC (the American Institute for Conservation and AICCM (The Australian Institute for the Conservation of Cultural Material). The conclusion of the debate was that making these ‘interim’ was unhelpful and that word should be removed, given that these guidelines were considered by all three bodies to be their current recommendation.

**Written comments**

At both conferences the chance to comment by note or email was provided, and in an attempt to give a full picture of the issues surrounding the discussion, all those received are recorded in the Appendix. These comments were all reviewed and considered by the Working Group, the conclusion being reached that the comments were generally supportive, and whilst valuable, required a level of detail in the Declaration which was not thought appropriate.

**Loans versus permanent display and storage**

As discussed above, the separation of environmental guidelines for loans and for permanent collections is an important component of the Declaration. This is an issue that has not been clearly delineated in the past, and it is vital that the consideration of the two be decoupled, leaving guidelines for these two different circumstances to be separately determined. The guidelines for loans enable museums to move objects between museums in different parts of the world minimising periods of acclimatisation, whilst guidelines for permanent display and storage are focused on providing environmental conditions closer to the local climate to reduce energy use.

From the conference discussions and subsequent comments the following points can be made:

- **Loaning guidelines are broadly tailored to the climates that prevail in those parts of the world that contain the major lending and borrowing institutions, so particular consideration of the local climate should be taken when loans are made to institutions in areas of the world where art loans are less common.**

- **Lending organisations tend to over-specify environmental requirements (i.e. make them tighter than are often being attained when objects are displayed or stored at the lending body) so as to provide a buffer for their protection during the inevitable environmental and physical stresses of the loan.** This is an issue which causes considerable angst within the profession, with borrowing bodies being asked to meet environmental conditions that are clearly not being achieved at the loaning institution.

- **A potential way forward with this issue is for both the lending and borrowing institution to exchange evidence of environmental conditions during the planning stage for a loan. This is likely to increase the safety of objects and potentially remove the need to install temporary conditioning systems for objects that do not need them. This is in line with how the Declaration views the Guidelines, namely as a starting point for the conversation between loaning and borrowing bodies, with the required conditions taking into account the actual conditions and the history of the object.**
Evidence-based decision making

A key driver for the Declaration for both IIC and ICOM-CC was to show leadership on the issue, and in doing so to actively acknowledge that the conservation profession has not come to a totally unified view on what are appropriate environmental conditions for all artworks and objects. Whilst initially this was seen as a hindrance to promulgating environmental guidelines, the Declaration has taken the view that these are complex issues and rather than trying to fully solve them within the profession we need to bring the wider museum profession into the discussion. Museum professionals are all going to have to think more carefully and individually about conditions they are specifying for storage, display and loans, why they are being specified, and that these three sets of conditions may not always be the same.

As has been stated on a number of occasions (e.g. by Jim Reilly at the Image Permanence Institute (2012): ‘It’s time to put a stake in the heart of the zombie of 20/50’) the flat line standard remained not because it was an optimum standard for all materials but because it was easy to remember, and required no in-depth consideration of the needs of the material being displayed or stored. Moving to variable guidelines requires more thinking and evidence-based decision making is time consuming, so there is inevitable resistance to it given the pressure under which many museum departments are having to perform. The use of experimental rather than experiential data for aiding in the making of decisions on appropriate conditions has been criticised as too limiting and artificial, but given the lack of in-depth experiential data for many material types, such information inevitably is of more use than no data. Certainly, providing blanket slightly broader bands of environmental conditions without the necessary consideration of the objects themselves or the conditions and climate of the borrowing body does not serve well either very sensitive material or the climatically insensitive material that often forms a large part of exhibitions.

More broadly the Declaration, in acknowledging that the conservation profession has not reached a fully unified position, seeks to recognise and respect that the diverse views are all driven by a unifying aim, namely to limit wherever possible the damage that inappropriate environmental conditions can cause. Conservators are all trying to preserve the artworks and objects in their care for as long as possible, and the fact that they are not all in agreement about how this is best achieved should not be a cause for hand-wringing but rather for encouraging further discussion and research.

Existing guidelines

Three sets of Guidelines were cited in the Appendix to the Declaration, from the Bizot Group, AIC, and AICCM. Inevitably the process of including these has led to scrutiny of their content, with the following comments made:

- It is not clear whether the Guidelines refer to loans or permanent collections. Bizot and AIC (AIC 2013) refer to loans in their final paragraphs, without clarifying if the guidelines refer to loans throughout whilst AICCM refers specifically to storage and display but not loans.
- The AICCM and AIC Guidelines’ references to ‘seasonal drift’ and ‘total annual range’ require clarification.
- The Bizot guidelines state that the RH is required to be in the range of 40–60% with fluctuations of no more than ±10% in 24 hours. This could be interpreted as ±10% outside this range, i.e. 30–70%. It appears however this is not the case, namely that the guidelines intend 40–60%, and that it should read with fluctuations of no more than 10% in 24 hours.
- RH: the range of 40–60%, 50% ± 10% with a maximum cumulative fluctuation of 10% in any 24-hour period. A further discussion of this issue is well articulated in the online dialogue between Ashley-Smith and Burmester (2013).

Conclusion

The IIC/ICOM-CC Declaration on Environmental Guidelines arose from the wish by both professional conservation organisations to show leadership on an issue which has caused some division within the profession and accordingly some confusion in the wider museum sector. It seeks to provide a level of clarity about the issues which has not previously existed, whilst also acknowledging that much more work continues to be required. In particular it emphasises the need for decoupling the requirements for loan items from those for permanent collections, and the onus on institutions now to take an evidence-based decision-making process to set appropriate conditions for their collections.

It is however a work in progress. The next stage is to unpack the various statements in the Declaration and develop detailed responses to the issues they raise. IIC looks forward to continuing to be part of the process which leads this discussion.

Acknowledgements

Acknowledgement is made in the writing of this paper to all those who took the time to submit comments at the two conferences, and in particular to the comments on the draft Declaration made by Joe Padfield (National Gallery London), David Saunders (British Museum), and Paula Dredge (Art Gallery of NSW, Australia).

References

AIC Environmental Guidelines. 2013. Museum Climate in a Changing World [accessed 1 January 2014]. Available at:
Appendix

The following comments were received by email or by written note at the conferences, and are quoted here verbatim apart from minor editing:

- Missing is a critical statement on the varying guidelines in the attachment — maybe it is a fault to give any apparently safe figures.

- I agree with the declaration, my only comment to possibly give examples where tighter control is important e.g. unstable weeping glass 42% ± ½, but I realise that if examples are added it will complicate and dilute the effectiveness of the declaration.

- A new point should be added to the first Section on Sustainability and Management such as: It is the conservation community’s aim to safeguard the objects that they care for. Risks must be limited to achieve this, including the risks originating by climatic influence on the material and the structure of the works. This should be kept in mind also when following the aim to reduce the carbon footprint of an institution.

- Additional to the Section on Loans, objects on loan might be exposed to abrupt change of climate conditions when the standards differ considerably between lending and loaning institutions. Therefore special attention and care is needed for fragile objects on loan. The way the section is written at present looks as if the environmental conditions in museums without climate control systems were appropriate per se, which might or might not be the case. Guidelines for these museums is needed, e.g. restriction of those elements influencing climate especially when risks get unbearable, due to opening hours, persons per room etc. Climate control does not depend on a system but attention and care and risk management.

- In regard to the Section on Existing Guidelines, guidelines do not have to be achievable in every case. A guideline serves for orientation, which implies that sometimes they may be aimed at but cannot be reached. An additional paragraph could read; It should be understood and accepted that guidelines for environmental conditions for permanent display and storage cannot be achieved in every climate. Appropriate conditions in this case are conditions that do not harm the objects exposed to them. Close observation is necessary.

- It should be made completely clear where the guidelines are intended for international loan environments, along the following lines: These guidelines are intended to facilitate loans between international loaning institutions. By breaking it up into the following sections it clearly demonstrates the different ways in which people can use the information.

- Institutions with full environmental control: Describe the acceptable ranges, including the mention of a set-point, as these are required by the engineers, for example as with the AIC guidelines for RH, a set-point between 45 and 55% with an allowable fluctuation of ±5% per 24 hr. Comment might also include allowable max and min range over an entire exhibition and clarity relating to the allowable rate/duration of fluctuations as well as the range.

- Institutions with partial environmental control: Set-points are less of an issue here, depending on the control method, more attention to the fluctuations, for example it would be bad for conditions to sit at 40% for a few weeks and then sit at 60% for the next few. Possible use of micro-climates for very fragile objects.

- Very clear comment needs to be included about object history, as objects from unconditioned or locally conditioned spaces need to maintain their own climate. Objects moving from non-controlled spaces may well need micro-climates if moving into spaces conditioned for international loans.

- These guidelines do not necessarily indicate the best conditions, just consistent ones to facilitate international loans. This information would then be related to local climates and climate histories. This is more complex, but would need to clearly indicate that people should look at historic conditions and for appropriate local solutions rather than aiming for conditions that are safe for other people’s collections.

- Safety and integrity of historic buildings need to be considered, full conditioning may not be the best solution, and even if you have full control, different set-points and ranges will be needed in different parts of the world.

- It should be clearly stated that if a collection is currently stable then the conditions do not necessarily need to change. However, if a collection is currently exhibiting signs of degradation consistent with current environmental conditions then ‘alternative’ (rather than improved) conditions should be examined, where possible.