



Preventive  
Conservation  
in Historic Houses  
and Palace  
Museums:  
Assessment  
Methodologies  
and Applications

SilvanaEditoriale

# **Preventive Conservation in Historic Houses and Palace Museums: Assessment Methodologies and Applications**

Conference of the National Museum of the Palace of Versailles (EPV), the Association of European Royal Residences (ARRE), and the Research Centre of the Palace of Versailles (CRCV)

In collaboration with the International Committee for Historic House Museums (DEMHIST), held at the National Museum of the Palace of Versailles and Trianon

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## **Conference Proceedings**

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# Is the Answer 42? Developing a Performance Indicator for Preventive Conservation

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## **Abstract**

The National Trust owns over 350 properties of which 250 are historic houses containing over 1 million objects. Preventive conservation is prioritized as the most cost effective way of caring for them. Since 2003, the Trust has used a Conservation Performance Indicator (CPI), alongside other performance measures such as income and visitor numbers, to assess whether condition is improving, declining or remaining static year on year. Since 2017 the CPI has been standardized to provide greater management insight into seven asset categories, of which one covers collections and historic interiors. This paper discusses how different types of preventive measures can be compared to infer their impact on condition; and whether reducing performance to numbers helps or hinders the professional profile of conservators.

## **Keywords**

Preventive conservation, conservation performance indicator, historic house museums.

**H**istoric house collections and interiors are one of seven categories that the National Trust (NT) for England, Wales and Northern Ireland uses to describe whether, through annual comparison of previous scores, the condition of its assets has improved, stayed the same, or declined (fig. 1). The Conservation Performance Indicator (CPI) was developed in 2003 to enable the condition of these assets to be reported on numerically, alongside other key indicators such as visitor numbers and financial performance. Originally it was considered that each property's individuality meant they could not be compared [Lithgow *et al.*, 2008]. However, the desire for improved management insight led to the CPI being revised in 2014 to enable national conclusions to be drawn by standardising the measures.

Conventional risk management calculations [e.g. Karsten *et al.*, 2012] do not allow the direct correlation of condition with risk. In addition, the Trust does not have comprehensive inventories and condition records of its cultural heritage assets. Consequently the CPI for cultural heritage uses progress on dealing with known remedial conservation priorities (condition measure 1) alongside effectiveness of managing

CONDITION: Measure 2: Preventive Conservation Please also refer to the technical guidance document for a description of each of the bands "Very Low" through to "Very High"

The scores generated by this spreadsheet and the data behind these should be used with professional judgement; an individual environmental factor may be more or less important for some of our collections and interiors. The spreadsheet suggests a weighting where "1. Physical damage prevention" contributes most to the score and "6. Insect pests" the least, again professional judgement should be applied here to sense check this for the specific Collections and Interiors CPI Feature.

Measure	Definition	Very High Score 4	High Score 3	Medium Score 2	Low Score 1	Very Low Score 0	Notes/Justification	Score (from 0 to 4 for each criteria or N/A)	Suggested Weighting
<b>1. Physical damage prevention</b>	Nos of objects/ surfaces damaged (accidents, wear and tear) since last CPI review	Only 1 or 2 have acquired minor damage (Condition Code B)	3-10 have minor damage (Condition Code B); 1-2 noticeable damage (Condition Code C)	3-10 have noticeable damage (Condition Code C)	More than 10 have noticeable damage (Condition Code C)	Any with considerable damage (Condition Code D)	3 objects have acquired minor damage B), none have acquired noticeable damage (C)	4	6
<b>2. Custodial neglect/ displacement or loss</b>	% of inventoried objects missing (both showrooms and stores)	0-1%, or no more than 20 objects, whichever figure is smaller	2%, or no more than 21-40 objects, whichever figure is smaller	3%, or 40-79 objects, whichever figure is smaller	4% or 80-99 objects, whichever figure is smaller	5%+, or more than 100 objects, whichever figure is smaller	75 objects unlocated out of an inventory of 10,000	4	5
<b>3. Dust management/ Cleaning Hours</b>	Recommended level of cleaning hours achieved annually based on housekeeping challenge*	100% target achieved	80%-99% target achieved	60-79% target achieved	40-59% target achieved	Less than 40% target achieved	Band B property (HM) achieved 73% of sustainable cleaning hours	4	4
<b>4. Light</b>	High sensitivity dosimeters meet target. No unacceptable light induced damage	All high-sensitivity dosimeters < 150k lux hrs; if none, all mod-sensitivity dosimeters <600k lux hrs.	Average of high-sensitivity dosimeters <150k lux hrs; if none, all mod-sensitivity dosimeters average <600k lux hrs pa	Average of high-sensitivity dosimeters 150k -300k lux hrs; if none, average of mod-sensitivity dosimeters >1 mill 600k-1mill lux hrs.	Average of high-sensitivity dosimeters >300k-600k lux hrs; if none, average mod-sensitivity dosimeters >1 mill lux hrs.	Average of high-sensitivity dosimeters >600k lux hrs; if none, no light monitoring carried out.	Average of high sensitivity dosimeter 140k lux hours	4	3
<b>5. Relative Humidity (RH)</b>	25 <sup>th</sup> percentile of time in 40-65% band for all collections spaces (target: 25 <sup>th</sup> percentile > 85). No unacceptable RH induced damage.	>85%	70-85%	50-69%	20-49%	<20%	Readings within 40-65% RH for 92% of the year	4	2
<b>6. Insect pests</b>	No active insect pest attack	IPM in place and results up to date. No evidence of active insect pest damage	Pest traps deployed, results up to date. Minor active insect pest damage (Condition Code 2, Stability Code IV)	Pest traps are deployed but full IPM not practised. May also be moderate active insect pest damage (Condition Code 3, Stability Code IV)	Pest traps deployed, but full IPM not practised. May also be severe active insect pest damage (Condition Code 4, Stability Code IV)	No pest traps deployed, full IPM not practised, not aware whether insects active or not. May also be evidence of insect pest damage.	IPM in place, readings up to date and sent in, no evidence of active insect pest infestation.	0	1

**Suggested weighted score:**

**95**

**Suggested score if all elements are weighted equally:**

**83**

Asset Category	Average Feature Condition Score (%)
Landscape & Setting	56.7
Archaeology	54.5
Nature & Wildlife	51.4
Gardens & Parks	50.2
Buildings & Structures	49.9
Natural Resources	46.8
Collections & Interiors	43.4

Fig. 1 (above)  
All NT asset categories listed according to 2017 results.

Fig. 2 (left)  
The Preventive Conservation element of the Condition Measure in the National Trust's (NT) Conservation Performance Indicator for Collections and Interiors.

risks by house staff through preventive conservation (condition measure 2, fig. 2) to indicate whether condition has changed or not, in a priority order reflecting NT conservation practise. Defining performance bands for each criterion, and weighting the results according to prioritisation of the severity of the risk, enables inputs (such as housekeeping hours) and outputs (RH and light levels) to be compared with outcomes (e.g. numbers of objects manifesting changes in physical state – damage

– per year). Other conventional risk factors (e.g. fire, flood, theft) are managed through other asset categories (i.e. buildings). The state (completeness, date) of underpinning knowledge (inventory/catalogue, and conservation record) is used as a confidence factor to moderate remedial and preventive measures.

Results suggest that in 2017 historic house collections and interiors are in a worse state than other asset categories. Causes include increasing hours of access and number of visitors without a corresponding investment in preventive measures to manage light, pollutants (particularly dust), and disassociation, whilst RH and IPM results give less concern. These measures, practised for over 25 years in some cases, are more rigorous than for other asset categories, which, perversely, means that conservators' interpretation of these results is even more important to demonstrate the value of their professional judgement over and above the spreadsheet. For the profession and their clients (property staff) it will be important to ensure that the pursuit of the number does not become divorced from the question, which is how best to ensure NT historic house interiors and collections can be enjoyed and passed on to future generations, in line with the organisation's core purposes.

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