

Tool kit for World Heritage Site monitoring indicators – DRAFT - 15 September 2006

INTRODUCTION

Context

World Heritage Sites have an obligation to ensure that their outstanding universal value is being maintained over time and interpreted to the public. To achieve this, it is good practice to put in place monitoring indicators, which can be tailored to the specific values of each World Heritage Site. The data will then be used for the annual report to stakeholders and the periodic report compiled every 6 years for UNESCO.

The aims of such monitoring indicators are:

- to assess the state of preservation & interpretation of the site in a given year and measure change over time (recording)
- to provide detailed data to the site managers so that they can improve the protection, interpretation & management of the site (informed action)

Brief

ICOMOS UK asked a small working group to compile a tool kit on monitoring indicators for World Heritage Sites. The group consisted of World Heritage Site officers representing the variety of urban, industrial, archaeological, natural and rural sites: Bath (Abigail Harrap), Stonehenge (Isabelle Bedu), Avebury (Sarah Simmonds), the Jurassic Coast (Sally Foster), Saltaire (Caroline Wilkinson) and Edinburgh (Jane Jackson).

Our objective was to establish a consistent approach to monitoring indicators for World Heritage Sites in the UK and overseas, and if possible, to identify a set of generic indicators. The tool kit is aimed at World Heritage Site managers to help them choose meaningful indicators for their respective sites.

Methodology

To achieve this, we have gathered indicators from the Management Plans of the UK World Heritage Sites. Many thanks for the various contributions received. We have also researched monitoring undertaken at a national level by Heritage Counts, the Buildings at Risk Register (BAR) and AONBs. At an international level, we have looked at monitoring guidelines from the US National Park Service and from UNESCO (Monitoring World Heritage, World Heritage Papers 10, UNESCO, 2002). We have assessed whether specific indicators were meaningful and practical at a site level, for different types of World Heritage Sites.

Results

The tool kit consists of:

1. A short list of 30 key generic indicators
2. Other key indicators, the B list
3. Other possible indicators, either site specific or more general, the long list
4. Examples - Edinburgh, Stonehenge, the Jurassic Coast, Saltaire and Bath

We would encourage all UK World Heritage Sites to use the set of generic indicators. But it is important to note that although they provide a consistent approach, they do not always allow comparisons between sites (e.g. the number of features at risk will vary with the size and type of World Heritage Site).

In addition to the short list of generic indicators, it is essential that each World Heritage Site considers its own values, management issues and objectives (as outlined in the WHS Management Plan) to create its own tailored indicators. This is why, in addition to the generic indicators, we are providing a long list of other possible indicators (the C list) and examples of site indicators. But as every site is different, it is quite possible that what makes it unique is not covered in any of these lists. It is the role of the World Heritage Site manager to develop its own specific indicators, tailored to the needs of the site.

It is also important not to overlook intangible values and qualitative indicators. We have given a few examples here, but further work would be needed and additional suggestions from World Heritage Sites would be welcome.

A step by step approach

We would recommend that the first stage would be for WHS managers to select the indicators relevant to their site (generic indicators and any other site specific indicators) and agree responsibilities and funding for each indicator with the key stakeholders. Some indicators are based on existing data and only need time to compile while others require funding for surveys. The second stage would be to gather the data under the coordination of the WHS manager, at least every 6 years, and more often for some indicators. We would recommend that this takes place in advance of the UNESCO periodic report if possible.

We recognise that the condition survey and the landscape survey are resource hungry and it may be difficult to put them in place immediately, but we feel they are the most meaningful and accurate to judge the evolution of the protection of the site over time. A phased approach may be necessary, starting with photography of key features and views on a small scale by the WHS manager, to a more comprehensive approach using a team of volunteers or specialists.

Presenting the data

The table below is a possible template for the monitoring indicators report, once the selection has been made, but is probably best used as a tick list. It may be useful to present the key figures in a summary table, but the analysis may be best presented as text, to expand on trend compared with previous years, put the figures in context, allow comparisons with regional and national statistics, or for other comments. It is especially useful when possible to show the trend going back a few years, and commenting on the change. The Edinburgh Annual Monitoring Report is a good example to follow in this respect.

| <i>Theme</i> | <i>Indicator</i> | <i>Method of measurement</i> | <i>Ideal status</i> | <i>Results for year X</i> | <i>Trend, comparisons & analysis</i> |
|--------------|------------------|------------------------------|---------------------|---------------------------|--|
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NOTES

Indicators - Indicators are a flexible tool, and our proposed indicators take the following shapes: yes / no answers, numbers, percentages, reports, photos. They reflect the variety of monitoring methods.

Themes – This should be based on the values of the World Heritage Site and to the key management issues identified in the statement of significance and the WHS Management Plan. A reference to the relevant objectives of the WHS Management Plan could be added in this column.

Ideal status – This can be expressed either as a figure (0 sites at risk or reduction by 10%) or as trend (reduction in sites at risk).

Setting – This includes the visual setting outside of the World Heritage Site (key views, approaches, skyline, etc), the visual setting of key features inside the World Heritage Site, and features supporting the significance of the World Heritage Site which may be outside the visual setting of the World Heritage Site (i.e. river upstream, Bath stone quarry).

Management – We considered indicators for human and financial resources and could not find any meaningful indicators.

1. Generic indicators – the short list

| <i>Theme</i> | <i>Indicator</i> | <i>Method of measurement</i> | <i>Ideal status</i> |
|--------------------------|--|---|--|
| CONSERVATION | | | |
| Protection | 1. Size of the WHS | Size of the WHS in hectares and any changes to the WHS boundary – 6 yr review | |
| | 2. Existence of a buffer zone | Existence of a buffer zone? Yes / No / Partial This can be a formal WHS buffer zone or other designations protecting the surroundings of the WHS | Yes |
| | 3. WHS Policy in Local Plan | Existence of a WHS Policy protecting the site against inappropriate development in the Local Plan or Local Development Framework? Yes / No | Yes |
| | 4. Planning guidance for development in the WHS | Existence of planning guidance for development in the WHS? Yes / No Description: This can be supplementary planning guidance based on the WHSMP, guidance for owners, design guide, tall buildings policy, etc. | Yes |
| | 5. Designations | 6 yr review <ul style="list-style-type: none"> • number of listed buildings • number of scheduled ancient monuments • % of the WHS protected by designations (such as AONB, conservation area, SSSI, national nature reserves, national parks, National Trust inalienable land, etc.) | |
| Condition of site | 6. List and number of features in poor condition | Condition survey of key features based on the Outstanding Universal Value of the WHS, including fixed point photography and a report with urgent and longer-term recommendations. To be carried out by specialists or by trained students or volunteers. At least every 6 years, more often for features needing closer attention. This survey has to be tailored to each WHS (i.e. key buildings in Bath / every archaeological feature in the Stonehenge WHS) and does not allow comparisons between World Heritage Sites. Despite the resource implications, we considered this was a more meaningful indicator than the Buildings at Risk Register (see indicator 32), as it can be better tailored to the significance of the site. | Decrease or stabilise number of features in poor condition |

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|-----------------------------|---|---|---------------------|
| Development pressure | 7. Number of planning applications in the WHS | Annual figure provided by the local planning authority The total number of planning applications received (granted and refused) gives an indication of development pressure. Comparison with national trends is provided by Heritage Counts (England only). If possible, applications affecting the WHS but located outside should also be recorded. The number of planning applications going to appeal may also be useful. Some WHS may want to record the number and effectiveness of pre-planning application consultations. | |
| Change | 8. List of major physical changes within the WHS & record of any loss | Annual report This should provide a brief description and if possible photography of major physical changes in the WHS (new development, loss of historic buildings or other key features, change of land use, positive management measures, etc). In addition, an assessment of the impact of each development could be provided (detrimental / neutral / positive) against a checklist of values based on the statement of significance. The criteria to decide what is 'major' have to be tailored to each WHS (i.e. planning applications covering an area larger than 1000m ² or 1ha in Edinburgh ; number of hectares of arable land reverted to pasture around Stonehenge and Avebury ; costal erosion on the Jurassic Coast) | |
| Setting | 9. Quality of the setting within and outside the WHS | Landscape survey - Fixed point photographic survey of strategic views and key features of the setting - Every 6 years The report should identify landscape character, intrusive features, new developments, any loss of key views or features. It should be analysed against a checklist of values (i.e. Bath: green skyline, clear boundary between city and countryside, remaining historic approaches) and local or regional landscape characterisation. It should make recommendations for the short and long term. This requires identification of the key views, features and values of the WHS setting. FOR DISCUSSION... To allow comparisons between World Heritage Sites, the analysis could then lead to a scale of 1 to 5 to judge the quality of the setting (1= very poor setting, 2= poor, 3= varied, 4= good, 5= very good) - 'varied' stands for a balance of good and poor elements in the setting. | Maintain or improve |

| USES & INTERPRETATION | | | |
|----------------------------------|--|---|--------------------------------------|
| Population | 10. Number of people living in the WHS | Census every 10 years – last one in 2001 http://www.statistics.gov.uk/census2001/access_results.asp | |
| Tourism | 11. Number of visitors to the WHS | <p>Ticket count for paying sites or annual visitor survey. This may be conducted only at key locations rather than for the whole site. The frequency will depend from site to site. Ideally, it should be carried out every year and at least every 3 years.</p> <p>The change year on year can be compared with other World Heritage Sites and regional and national statistics provided by Visit Britain and Heritage Counts.</p> <p>UK tourism statistics - http://www.visitbritain.com/corporate/factsfigures/index.aspx http://www.staruk.org/default.asp?ID=730&parentid=469</p> <p>Heritage Counts – number of visits to historic attractions (indicator C2.1 – 58 millions in 2004, decrease of 1% on 2003) - www.heritagecounts.org.uk 3. Indicators for the Historic Environment</p> | Depends on WHS |
| | 12. Profile of visitors | <p>Visitor survey every 3 years at least, to include:</p> <ul style="list-style-type: none"> • % of education visitors • % of foreign visitors and nationality • % of groups • % of repeat visitors • age split [a common standard?] • social diversity [indicator?] | Depends on WHS |
| | 13. Distribution of visitors in time and space | Number of visitors at different times of year and at key locations. This is essential data for visitor management to avoid over-concentration in some areas or in peak periods and encourage dispersal where capacity exists. | Depends on WHS |
| | 14. Physical impact of tourism | List of negative physical impacts and remedial measures in place or recommended. Every 6 years. This could be more precisely measured by a fixed point photographic survey every year or more often if needed, preferably integrated in the condition survey (i.e. grass erosion at Avebury, wear and tear in buildings). | Reduce or stabilise negative impacts |

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|----------------------------------|---|--|----------------------|
| | 15. Impact of tourism on local community | Assessment every 6 years based on resident surveys, focus groups, discussion with local councils, etc. | |
| | 16. Social inclusion | Is there a social inclusion agenda in place? Yes / No Description: | Yes |
| Access and Interpretation | 17. Provision for interpretation and access | Baseline summary of provision for interpretation and access, including provision for visitors with disabilities, access for all, virtual access, children, and foreign visitors. Annual review to identify changes and improvements (i.e. new footpath, new building open to the public, new visitor centre, new website, etc.) | Maintain or increase |
| Education | 18. Educational resources and activities | Description of the educational resources & activities available (teachers packs, website, education officer, activities on site, etc) specifying age group and links with curriculum | Maintain or increase |
| WHS awareness | 19. Interpretation explaining the values of the WHS | Visitor survey to assess on-site interpretation every 6 years: <ul style="list-style-type: none"> • Have you found information during your visit explaining why this site is a World Heritage Site? Yes easily / Yes with difficulty / No • How do you rate the information provided on site? (1= very poor, 2= poor, 3= satisfactory, 4= good, 5= very good) Also peer review every 6 years to assess on-site and off-site interpretation explaining the values of the WHS, using checklist (WHS plaque, website, publications, etc.) | |
| | 20. Use of the WHS emblem | Is the WHS emblem used consistently and accurately on interpretation and promotional material? Yes / No Comments: | Yes |
| | 21. Number of hits on website | Number of hits on WHS website – Annual review | Maintain or increase |
| | 22. Media coverage | Number of newspaper articles, TV documentaries and radio programmes on the WHS – Annual review | Maintain or increase |

| ENVIRONMENTAL QUALITY | | | |
|--|--|--|----------------------|
| Sustainable transport | 23. % of visitors arriving or travelling within the WHS by other means than car | Visitor survey every 3 years How did you arrive? car / coach / bus / train / bike / foot / boat / rollers / pushchair... | Increase % |
| | 24. Provision of public transport | Description of the public transport provision and of any changes | Maintain or increase |
| Green agenda | 25. Environmental policy | Is there an environmental policy in the WHS? Yes / No Description: This would include targets for reducing energy and water consumption, appropriate sewage, reducing and recycling waste, environmental guidelines for new buildings and visitor facilities, etc. | Yes |
| Climate change | 26. Number of floods, storms, extreme cold and hot days, loss of coastal land by erosion, etc. | An assessment of vulnerability to climate change has to be carried out to help decide which indicators are the most appropriate for a specific WHS UK Climate Change Impact Programme - http://www.ukcip.org.uk/climate_impacts/ HELM - http://www.helm.org.uk/server/show/nav.9255 | |
| MANAGEMENT | | | |
| WHS management | 27. WHS Management Plan | Is there a WHS Management Plan in place? Yes / No | Yes |
| | 28. WHS Steering Group | Is there a WHS steering group in place? Yes / No | Yes |
| | 29. WHS Officer or WHS team | Is there a dedicated WHS Officer or WHS team in place? Yes / No Description (number of staff, responsibilities, length of contract): | Yes |
| Risks | 30. Risk assessment and emergency plan | Is there a risk assessment in place? Yes / No Is there an emergency plan in place (including visitor safety, natural and man-made disasters)? Yes / No | Yes |
| SITE SPECIFIC INDICATORS... linked to specific site values, issues and objectives | | | |
| | To add... | | |

2. Other key indicators – the B list

| | | | |
|--------------------------|---|--|--|
| Protection | 31. List of conservation measures | Report every 6 years including: <ul style="list-style-type: none"> • Number of key buildings with a conservation plan • List of management agreements with owners • Any grants scheme and other conservation measures | |
| Condition of site | 32. List and number of features at risk within the WHS | <p>Cultural Sites - Buildings at Risk Register (BAR) produced every year by English Heritage and Scottish Civic Trust. This includes listed buildings grade I and II* and scheduled ancient monuments. It allows comparisons on a national and regional level (3.4% of grade I and II* buildings are at risk, 2.4% in east of England, 7.9% in the North East, source BAR 2005). It provides a good starting point for the features most at risk but may not be sufficient (i.e. in Bath, only one building is on BAR). BAR - http://www.english-heritage.org.uk/server/show/nav.1424</p> <p>Natural Sites – priority species and habitats identified in the International Red Data List for endangered species and, at a national level, in the UK Biodiversity Action Plan (BAP) Red List - http://www.iucnredlist.org/ UK BAP - http://www.ukbap.org.uk/GenPageText.aspx?id=54</p> | Decrease in number of features at risk |
| Ecological value | 33. List and number of protected species | Ecological survey every 6 years | Maintain |
| | 34. Map and extent of protected habitats | Ecological survey every 6 years | Maintain |
| Tourism | 35. Level of satisfaction | % of visitors rating their visit as good and very good - Visitor survey every 3 years How would you rate your visit today? (1= very poor, 2= poor, 3= satisfactory, 4= good, 5= very good) | Maintain or increase |
| Economic value | 36. Visitor spending in £ | Estimate of visitor spending in the local area, based on regional and national statistics provided by Visit Britain (x day trips for nationals plus x overnight for foreign visitors) | Increase |
| Traffic | 37. Traffic volume within the WHS and modal split | Traffic survey every 6 years including: <ul style="list-style-type: none"> • Number of cars / buses / cyclists / pedestrians / etc. entering the WHS • % of journeys made by different types of transport (modal split) | Decrease number of car journeys |
| | 38. Number of parking spaces on & off street in the WHS | Survey done by local councils as part of Local Transport Plan. Reducing or stabilising the number of parking spaces can be part of a policy to reduce car traffic in the WHS. | Stabilise or decrease |

3. Other possible indicators – either site specific or more general

| <i>Theme</i> | <i>Indicator</i> |
|---|--|
| Condition | 39. Number of repair notices issued by the council |
| | 40. Number of grants given for historic buildings |
| Setting | 41. Are key views identified? |
| | 42. Is there a policy in the Local Plan to protect them? |
| Intangible values | 43. Peaceful atmosphere – noise level, overcrowding |
| | 44. Spiritual value - Is the site still in use for worship (church) or ceremonies (i.e. Stonehenge)? Yes / No |
| Urban | 45. Length of pedestrian streets |
| | 46. Streetscape |
| | 47. Extent / loss of green spaces |
| Rural | 48. Number of hectares covered by HLS - DEFRA |
| | 49. Extend of farmland under organic production - DEFRA |
| | 50. Number of reported pollution incidents in rivers - Environment Agency |
| | 51. Extent / loss of woodland, hedges, dry walls, other key features |
| Biodiversity | 52. Survey of unimproved grassland: extent, condition and floristic quality – every 6 years |
| | 53. Bat counts |
| | 54. Number of veteran trees and health indicator |
| | 55. Tree age survey – every 25 years |
| Research | 56. Existence of a research strategy? Yes / No |
| | 57. Annual review of fieldwork, research projects and publications |
| Uses | 58. Is the WHS retaining its original uses? Yes / No - Description: |
| Visitors | 59. Length of visit - Visitor survey - How long have you spent on site? |
| Community | 60. Number of volunteers working at the WHS |
| Quality of life of local community | 61. Traffic congestion?? Other indicator? |
| WHS | 62. WHS plaque on site? Yes/ No |
| Economic value | 63. Number of staff employed by the WHS |
| Green agenda | 64. Number of businesses members of an environmental scheme such as the Green Tourism Business Scheme (see South West Tourism website) |
| | 65. Is there a regular environmental audit of visitor facilities? Yes / No |
| Pollution | 66. Air pollution |
| | 67. Water quality - Environment Agency |
| | 68. Noise |
| | 69. Light pollution - AONB |

4. Examples

The **Edinburgh World Heritage annual monitoring report** is a very good example of compiling and commenting key monitoring indicators
<http://www.ewht.org.uk/editor/GetFile.aspx?ItemId=38> (beware – large file to download)

Extract from Stonehenge World Heritage Site monitoring indicators - DRAFT REPORT - JULY 2006

| Objectives | Key Monitoring Indicators | How and Who? | How Often? | In place? | Results |
|---|--|---|-------------------|--|--|
| Conservation of archaeological sites <i>Stonehenge WHSMP Objectives: 2, 8, 15, 16</i> | 1. Existence of updated records for the archaeological sites | Sites and Monuments Record maintained by Wiltshire County Council (WCC) | As appropriate | yes | 784 known archaeological features of which 416 are scheduled... including 348 Bronze Age round barrows and 10 Neolithic long barrows |
| | | Stonehenge Geographical Information System (GIS) maintained by English Heritage (EH) | As appropriate | yes | Yes – information on archaeological sites, land use, ownership, etc |
| | 2. Condition of archaeological sites | WHS Condition Survey funded by EH | Every 6 years | yes | Results of WHS Condition Survey (2002) – to complete |
| | | Regular monitoring of sites by National Trust (NT) volunteers and EH Field Monuments Wardens | As appropriate | yes | To complete |
| 3. Hectares of grass restoration and number of sites protected from plough damage | Map and figures collated by WHS Coordinator, DEFRA, National Trust | Annual update | yes | Since 2000, 340 ha of arable land have been signed up to revert to grass within the next 10 years. This represents more than 20% of the land which was cultivated before 2000. It will protect 75 prehistoric monuments including the Avenue, Normanton Down and Durrington Down barrows, North Kite enclosure and Cuckoo field (last update July 2005). | |
| Protection and enhancement of the landscape | 4. Erosion | Fixed-point photographic survey and map indicating eroded areas and cause of erosion – by trained National Trust volunteers | Biannual | no | |

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|---|--|--|---------------|--------|--|
| setting <i>WHSMP Objectives: 9, 10, 11, 23</i> | 5. Changes in the landscape | Photographic survey and report identifying intrusive elements, and reviewing land use changes, recent developments, and progress in removing roads and modern 'clutter' – use WCC aerial photos (done every 10 years) and possibly satellite imaging – by Salisbury District Council (SDC) | Every 6 years | no | |
| Archaeological research and fieldwork <i>WHSMP Objectives: 26</i> | 6. Research Strategy in place with mechanisms to implement and review it | English Heritage and WHS Archaeology Group | Every 6 years | partly | Research strategy published in 2005 No mechanisms in place yet to implement and review it |
| | 7. Review of fieldwork, research projects and publications on Stonehenge | WHS Archaeology Group | Every year | no | WHS Archaeology Group not created yet |

Extract from draft monitoring indicators for Bath (2006)

| Main OUV | Issues needing to be monitored |
|-----------------------|--|
| Georgian architecture | Loss of buildings |
| | Loss of supporting features i.e. gardens, boundary walls |
| | Dilution of character through too much modern infrastructure clutter |
| | Introduction of different scale / materials / colour buildings |
| | Introduction of poor quality or non-locally distinctive architecture |
| Hot springs | Contamination of reservoir |
| | Loss of water |
| | Loss of use for health treatment |
| | Loss of identity as international spa town |

Extract from draft monitoring indicators for Saltaire (2006)

| <i>Themes</i> | <i>Indicator</i> | <i>Method of measurement</i> | <i>Ideal status</i> |
|---|--|---|---|
| Maintenance of appropriate uses | Changes in Use at the Site | Periodic uses survey Change of use planning applications | Mix of uses that maintains the historic character of the Site |
| Vacancy of buildings | No of vacant buildings | Uses survey | Low level of vacancy. |
| Impact of visitors / WHS status on residents | No of residents who indicate that visitors are having a negative impact on their quality of life | Residents survey | Low impact on the life of residents |
| Impact of traffic on WHS (a threat at some sites) | No and impact of vehicles | Traffic surveys | Low impact of traffic on the Site |

Extract from the Jurassic Coast draft monitoring indicators (2006)

| <i>Theme</i> | <i>Indicator</i> | <i>Method of measurement</i> | <i>Ideal status</i> |
|-------------------------------|--|--|------------------------------|
| Condition of site/ Management | Number of areas experiencing irresponsible or inappropriate specimen collection | Visual/ fixed point photography | No such sites |
| Quality of setting of site | Levels of use and disturbance at selected survey points, plus noise measurements | Monitoring, surveys and survey of noise pollution at differing times of the year | No reduction in tranquillity |
| Safety | Number of call outs within the Site e.g. HM Coastguard where Site is coastal | Number of reported incidents | Decrease |