



ENGLISH HERITAGE

SUSTAINABLE CONSERVATION PRINCIPLES

2023



Towards sustainable conservation

Our role at English Heritage is to protect, sustain and enhance the National Heritage Collection, one of the most important collections of historic sites, buildings, landscapes and objects in the world.

As a national charity, we do that for everyone. Since we launched in 2015, we've invested significantly in major conservation projects at sites like Ironbridge, Dover Castle and Lincoln Medieval Bishops' Palace. We've also increased our core maintenance, opened up dozens of new experiences for visitors at Tintagel Castle, Belsay Hall and Clifford's Tower, revitalised historic gardens and landscapes at Wrest Park, Brodsworth and Marble Hill, and restored paintings by renowned artists including Reynolds, Titian and Botticelli. We draw on the expertise of our curators, researchers, building surveyors, conservators, scientists, estate managers and project managers, alongside our consultants and contractors, to carry out quality work that sets the standard for our sector.

Caring for the National Heritage Collection is complex and costly, and the challenges we face are growing. Inflation and skills shortages are driving the costs of conservation, and climate change and biodiversity loss are having an ever-greater impact. The major collapse at Hurst Castle in 2021 presented a stark reminder of how vulnerable some of our properties are to rising sea levels. We increasingly need to make hard choices about how we prioritise our work to help stem the process of deterioration. Facing these choices should also make us bold and open to innovative and creative approaches.

This is why we've adopted an approach called 'Sustainable Conservation'. It's an integrated, long-term strategy that goes beyond obvious defects to address the risk factors that can lead to disrepair. It demands that we work to reduce vulnerability and the causes of deterioration – and that we increase our resilience to the impacts of climate change. Critically, it also means ensuring we have the right expertise, skills and maintenance regimes in place to keep our historic properties in a safe and sustainable condition, at the same time as we reduce our own impact on the environment and the natural world.

Sustainable Conservation also presents new opportunities. Through our stewardship, we hope to pass on the collection to future generations in a better state than we found it. In doing so we believe we should be confident and pioneering in addressing conservation challenges, whilst creating exciting experiences for visitors to our sites. We believe our research can reveal more about the past whilst finding solutions for the future. We believe we can balance the needs of nature and the environment whilst caring for the most vulnerable of historic buildings. We believe we can help shape the skills for the future, from flint knapping to artificial intelligence. And we believe our work will never be done – and that we still have much to learn and share with partners from all over the world to shape a more sustainable future for England's heritage.

Rob Woodside
Director of Estates, English Heritage

Sustainable Conservation Principles

Our new Sustainable Conservation Principles are intended as a guide – they are not prescriptive and not all will be applicable to every aspect of our work. They are intended to help shape our thinking and to create the best outcomes for the care of the National Heritage Collection.



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We will ensure our work is informed by an understanding of significance and values

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We will prioritise preventive maintenance and safety

3

We will be open to adaptation and change where it may reduce vulnerability and increase understanding

4

We will integrate nature for the benefit of both the natural and historic environment

5

We will reduce our environmental impact and build resilience to climate change

6

We will support the skills and expertise we need to care for our heritage

7

We will make our work in conservation accessible and relevant to all



By following these principles, we will ensure the conservation of the historic assets in our care by:

- deepening our knowledge and understanding of significance, condition, vulnerability and risk
- improving the condition and resilience of our most vulnerable properties
- enhancing the presentation of our historic houses, interiors, gardens and landscapes
- aligning our greatest conservation need with the largest gap in heritage skills
- developing our role as an independent research organisation
- raising awareness of our expertise and the role conservation plays in caring for our heritage
- playing our part as a national charity in sharing our knowledge and skills with national and international partners.

We will ensure our work is informed by an understanding of significance and values

In caring for the National Heritage Collection, we're not simply conserving physical assets – we're acting as stewards for England's greatest repository of historical stories, knowledge and evidence. Together with our artefact collections and archives, our properties are the physical reminders of thousands of years of human activity and events that shaped our history. Decisions about how we conserve, enhance, adapt and manage change must be made with an understanding and appreciation of significance and wider cultural values.

Conservation is a complex and constantly evolving area of professional work that touches on multiple disciplines. As a leading heritage charity, we have a voice and role to play in demonstrating thought leadership, innovation and best practice. We will continue to develop new partnerships and strengthen our profile at home and across the world as leaders in the sector, building trust and credibility with stakeholders and funders.

To deliver on this principle, we will:

- ensure conservation repairs and interventions comply with relevant legislative requirements as agreed with Historic England
- undertake research and investigation of the archaeology, history and historic fabric of our properties to inform conservation planning, interventions and repair
- ensure major conservation or visitor experience projects are informed by either a Conservation Management Plan or Conservation Framework
- collaborate with others to commission and undertake research to enhance our knowledge of the history and archaeology of our properties and develop new approaches to building conservation, heritage science, nature-based solutions and the use of technology.

Putting research into action

We have just completed a sizeable conservation project at Lincoln Medieval Bishops' Palace, using a new Conservation Framework to plan and manage our work. Guided by this framework, we mapped out the significance of each element of the site as well as its key vulnerabilities. In doing so we identified that the late 12th-century remains of window-sills and reveals were architecturally extremely valuable but that they had suffered badly as a result of poor-quality limestone, shattered by the freeze/thaw action of water, and valerian roots. We conserved the original fabric where necessary and preserved the architectural form, using new stone in places.



A blooming masterpiece

The gardens at Wrest Park had been in decline for nearly a century when English Heritage took on responsibility for the site in 2006. Extensive archive, survey and archaeological research informed the development of an ambitious 20-year plan to restore the landscape, which is home to garden features spanning from the 1670s to the 1930s. We have made great progress, reinstating lost paths, conserving garden buildings and restoring plant schemes to bring these remarkable gardens back to life for visitors and nature alike.



A living laboratory

We use conservation science research to inform our decisions regarding light, humidity, insects, mould, pollution, temperature, vibration and cleaning methods, all of which cause objects to deteriorate. This research is carried out by our specialist Conservation Science team, often in collaboration with other academic institutions. Recently they have been working on projects to develop new approaches to address mould growth on historic objects, and analysing different approaches to protecting outdoor statues from frost. We have also joined a consortium of international partners on the GoGreen project, so we can adopt more environmentally sustainable strategies for object conservation.

We will prioritise preventive maintenance and safety

Historic structures and ruins are particularly subject to deterioration, which can lead to stone fall or even structural failure. This can present a safety risk and lead to the loss of historic fabric. Historic houses are at particular risk from water damage, floods and fire. It's vital that we undertake planned safety checks, inspections and assessments, deliver regular condition surveys, ensure effective, preventive planned maintenance and respond rapidly to emerging issues.

To support this work, we have developed a suite of management standards that define 'what good looks like' for each key heritage asset type, as well as specific areas of risk, such as masonry fall from height. This allows us to track performance and measure progress against agreed targets.

To deliver on this principle, we will:

- address priority safety and compliance needs – focusing primarily on fire and the risk of material falling from height
- focus on safety, vulnerability and risk – looking to address the causes of deterioration, not just the symptoms
- continue to build our understanding of condition, vulnerability and risk through an ongoing 10-year property survey programme
- regularly review our management standards to meet compliance and best practice.

Putting maintenance at the heart of everything we do

Our buildings and monuments require almost constant care and our front line of defence against failing masonry and leaking roofs is effective maintenance. Without it, we face higher repair costs and increased vulnerability to climate change. In 2022, we completed a full review of all maintenance tasks to ensure we were doing all we should. Whilst mostly good, we identified some key areas for improvement, from simple changes like increasing gutter and drainage clearing through to a new programme of joinery repair, painting and vegetation removal from vulnerable stonework. We will launch our new Preventive Maintenance Programme in 2024.



Managing risk at height

Many of our sites are made up of standing masonry or unroofed structures which are constantly exposed to rain, frost and invasive vegetation. This can lead to loose and falling masonry which can present a serious risk to people below. To tackle this ongoing challenge, we have developed a new methodology for managing material falling from height, which combines academic research with tactile rope access inspections to assess the level of risk. For our most vulnerable sites, we then use long-term monitoring, technical trends and fabric analysis mapping to assess their stability. Moisture sensors, drone surveys, thermography and photogrammetry can also help identify masonry decay in different construction and material types. This approach then helps us reduce risk and more effectively target repair.

Creating a digitised future

Digital technology has transformed how we understand and record the condition of built structures. This ranges from the three-dimensional holistic site assessments our surveyors make using drones, to the suite of 3D models and building walk-throughs we have built in partnership with the Geospatial Team at Historic England, who are also piloting the use of a 'robot dog' to conduct surveys on our properties. We're exploring emerging technologies too, such as using smartphone apps to create 3D models in minutes and artificial intelligence to rapidly analyse defects.



We will be open to adaptation and change where it may reduce vulnerability and increase understanding

Conservation is rooted in the understanding and protection of significance and in the consideration of current and future needs and threats. At its heart, our work is about the careful management of change. To sustain what we value, we must learn to adapt, and we see that play out across the National Heritage Collection as we undertake repairs, broaden access to the sites we care for and create new transformative visitor experiences.

Our aim is to find ways to not only address historic defects but also to prevent issues arising or returning once project or maintenance work is complete. Essentially, this means addressing the causes of deterioration, not just carrying out the obvious repairs. This may include considering more preventive measures through interventions and adaptation that help reduce vulnerability, protect key elements, improve access to sites, enhance maintenance or reduce the need for repeated repairs. This could take the form of more soft-capping techniques (the use of grass and soft herbaceous plants on the top of ruined walls rather than hard capping with stone), cover shelters, external rendering or bespoke approaches to stone masonry that protect vulnerable fabric. In some cases, it may mean new and adaptive uses for buildings that will ensure better environmental management and long-term maintenance.

To deliver on this principle, we will:

- integrate consideration of intervention and adaption measures that reduce vulnerability at the concept stage of project development
- be open to alterations, changes of use and adaptive measures that support wider public access and understanding
- favour contemporary designs for new build and interventions that complement and enhance historic fabric
- work to improve the condition and presentation of our historic houses
- in exceptional cases, consider the management of loss where no other viable conservation option is available.

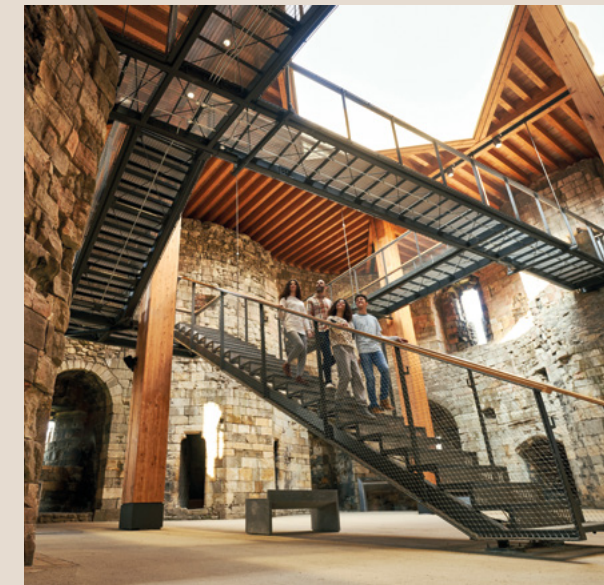
Restoring the render

The 12th century walls of Orford Castle were built from a delicate local mudstone known as septaria, which has been deteriorating since the 16th century. With septaria in short supply and unsuitable for long term repairs, we needed an alternative way to protect the castle walls. After 13 years of research, in 2022 we reinstated the protective lime render that once covered the full height of the keep. The castle is now a buttery yellow, as it would have been when first built. This latest development in the castle's long history has been well received by the local community.



Marrying both ancient and modern

In 2022 we completed a major project to conserve Clifford's Tower in York and to improve access around the site, by creating a self-supporting timber canopy, oversailing the wall-heads. Visitors can now walk on the decking above the canopy and appreciate the city panorama, and also take in the newly cleaned historic stonework lit up below it. The combination of painstaking conservation and innovative new infrastructure has enhanced the significant features of the tower and has been enthusiastically received by our visitors.



Dry hat, dry feet

At Bolsover Castle we faced the double challenge of a leaking roof and damp in the basement kitchens, caused by water being cast off the roof and draining down the former servants' steps. Our solution was to extend the existing stone spouts using additional lead lining, to throw the water further away from the building. We then installed new drainage to carry away the ground water. After complex negotiations, we also built a canopy over the basement steps – echoing in part an earlier structure – to prevent further water ingress: a light-touch but contemporary solution.



We will integrate nature for the benefit of both the natural and historic environment

To be sustainable we must take into account our responsibility for nature. Many English Heritage properties are exceptionally rich in wildlife, home to a diverse range of flora, invertebrates, bats, birds and mammals. Around 30% of our properties lie within an international, national or locally designated nature conservation area. We have a duty of care and legal responsibility towards habitats and protected species, but also a responsibility to play our part in addressing biodiversity loss.

But we know balancing heritage and nature can at times be challenging. That means our actions must be based on a broad consideration of values and options that, as far as possible, find a balanced approach that benefits both nature and the historic environment.

This principle is underpinned by our far-reaching Nature Strategy and our new Guidelines for the Conservation and Management of Historic Landscapes, which together set out our ambition to improve the condition of our landscapes and enhance the biodiversity of our properties. They also explain how we will develop new interpretation, build partnerships with wildlife organisations, create opportunities for volunteering and engage more communities in our work.

To deliver on this principle, we will:

- follow best practice in relation to wildlife legislation as we deliver maintenance and planned projects
- strengthen our understanding of the habitats and species in our care through surveys and site monitoring
- enhance and create new habitats by changing planned maintenance, supported by opportunities arising through new project development and funding streams
- build partnerships to connect English Heritage sites to habitats in the wider countryside.

Working for heritage and nature

Over a third of English Heritage sites lie within a nature conservation area, and many more offer habitats for important species. At a time when nature is under increasing threats from disease and climate change and habitat loss, it's vital that we carefully consider the natural value of sites in our plans. Our Nature Strategy sets out how we'll deepen our understanding of the natural environment and build the skills of our teams to help care for it. The strategy also sets out how we aim to enhance habitats through ongoing maintenance work, as well as how we'll work with partners to enhance nature both within and beyond our sites.



Majestic meadows

In May 2023 we celebrated the coronation of His Majesty King Charles III with a pledge to enhance and create one hundred meadows at sites across England. From Stonehenge to the Jewel Tower in the heart of Westminster, over the next decade, we'll create a natural legacy at our historic sites, establishing species-rich grasslands right across England, restoring those that have been lost, and enhancing those that already exist. Species-rich grasslands not only benefit nature, but they're also proven to help tackle pollution, protect archaeology and permanently lock away atmospheric carbon below ground.

Wall paintings, bats or both?

Many of our sites provide much-needed roosts for bats. Most of the time they go largely unnoticed, but in rare cases they – and in particular, their guano (excrement) – can cause issues. For instance, at Berry Pomeroy Castle, their guano was impacting the stability of rare medieval wall paintings. Bat roosts are protected by law, so a creative solution was needed. We installed a suspended panel to encourage the bats to fly into their roosts at a greater distance from the wall, which means less guano ends up on the paintings.



We will reduce our environmental impact and build resilience to climate change

Climate change presents one of the most significant threats to our heritage. Rising sea levels, excessive rainfall, water penetration, flooding, storms, drought and extreme temperatures threaten to cause substantial damage to heritage. This brings the potential risk of property closures, higher repair costs and the potential for harm and disruption to visitors, volunteers and employees. We are already experiencing the impact of sea level rise and changing coastal dynamics at Hurst Castle.

The aim is to better understand these risks and consider how we can either mitigate their impacts or adapt our properties to build greater resilience. This requires research and collaboration with other heritage organisations and academics. Our work is underpinned by our Climate Action Plan that will ensure we meet Carbon Net Zero by 2040, alongside upskilling our people and making our property operations and project work sustainable. The plan includes our work in conservation, where we are researching and communicating means of enhancing climate resilience and managing change.

To deliver on this principle, we will:

- implement an Environmental Management System to reduce the impact of property operations, maintenance and projects on natural resources
- be informed by climate hazards, exposure and vulnerability of key sites to inform future conservation efforts, with a particular focus on coastal sites
- commission research with academic partners to assess options for adaptation and nature-based solutions
- work in partnership with the wider UK and international heritage sector to develop consistent approaches to climate change mitigation and adaptation.

Assessing climate risk and resilience

We're developing assessments of climate risk at five sites by bringing together a range of data including climate projections, visitor numbers, staff observations and site-specific data such as condition of the property. Each assessment covers the whole site, from buildings, collections and gardens to landscapes, people and operations. The assessments will enable us to make climate informed decisions and develop bespoke adaptation plans. This work is supported by the Benefact Group. Our aim is to create climate risk assessments for half our sites by 2025.



Coastal connections

Following the partial collapse of Hurst Castle in 2021, we're working with the World Monuments Fund on a new global knowledge-sharing network for coastal sites threatened by climate change. Called 'Coastal Connections', the project brings together people with first-hand experience – from the caretakers of Methoni Castle in Greece to communities around Ghanaian trading posts – to develop tools and principles for site managers and stakeholders. Our experiences of caring for Hurst Castle, which was included in the 2022 World Monuments Watch list, will play a central role in the project.



Lean, keen and green

We strive to be an environmentally sustainable organisation that uses our resources efficiently. Training and supporting our people to achieve this is core to our Climate Action Plan. So too is building an Environmental Management System (EMS) to help us understand and manage our impact, so we can continually track and improve our performance. As a central information source, we use the EMS to identify areas of risk, and to spot where we can improve efficiencies and reduce waste. Initially we have focussed on energy and water and we have already seen significant natural and financial resource savings.

We will support the skills and expertise we need to care for our heritage

We know that some heritage skills are at risk as fewer young people are taking up craft and construction based roles, which could have long term implications for English Heritage if we cannot access the skills we need to care for our properties. It is, therefore, very much in our interest to work with the wider heritage sector to develop essential skills, aligned to our charitable objectives of conservation and education.

To this end, we remain committed to the ongoing Historic and Botanic Gardens Training Programme, and are developing a new agenda for training in specialist craft and building skills, aligned to our ongoing programme of conservation maintenance. We are also committed to building our workforce of maintenance volunteers who can take a more active role in undertaking day to day maintenance tasks.

To deliver on this principle, we will:

- develop a long-term skills programme to encourage more young people to enter heritage construction professions
- build on our Conservation in Action programme to raise greater support for our work and inspire young people to consider training and careers in heritage conservation
- progress with enhancing horticultural skills through the Historic & Botanical Gardens Training Programme
- offer more opportunities for people to become maintenance volunteers and take up other new specialist volunteering roles in surveying and conservation documentation
- work with national and international partners to exchange knowledge and develop the skills and expertise needed to care for our heritage.

Creating the craftspeople of the future

English Heritage remains committed to supporting heritage skills needed for the future. Our new skills agenda aims to close the gap between one of our greatest conservation needs and the availability of those trained in the specialist craft of flint-knapping - to help us conserve flint and rubble ruins and buildings in the East of England, at places such as Castle Acre and Audley End. Our hope is to build a new cadre of heritage apprentices, alongside developing a hands-on training programme for Further Education students. We also want to inspire and engage school children, to encourage them to consider the idea of a future working in the heritage sector.



Getting your hand in

Volunteers are vital to our work and we are lucky to have a growing number undertaking basic, but essential, maintenance tasks. We now have over 100 supporting us at Fort Brockhurst, Richborough, Beeston and Audley. At North Leigh Roman Villa, a free-to-enter site managed by the local community, volunteers are helping with maintenance tasks following a recent conservation project, including re-setting loose stones and repairs to the surrounding dry stone walls. All volunteers receive training in safety, conservation practice and maintenance skills.

Growing our own

We have managed the Historic and Botanic Garden Training Programme since 2006, training over 300 gardeners during this time. The programme provides full-time paid work for trainees to work alongside professionals in exceptional heritage gardens, allowing them to build solid technical knowledge and to acquire high level practical skills. Trainees also work on projects, take regular plant identification tests and keep daily diaries of their work. They benefit from a wider programme of supported group learning and annual seminars and study tours.



We will make our work in conservation accessible and relevant to all

Conservation isn't something we do behind closed doors. It's central to our cause as a charity, which is why we want to share it with as many people as possible. Our Conservation in Action programme has already raised the game in interpreting our work for visitors and local communities, as well as through the media and online, and our Conservation on the Road van has engaged thousands of visitors with hands-on conservation experiences across the country.

Depending on the scale of works, we will develop eye-catching Conservation in Action interpretation and related activities to engage members, visitors and local communities. We will work with the media and local stakeholders to make sure people are aware of conservation issues, and to explain why changes might be necessary.

To deliver on this principle, we will:

- integrate Conservation in Action across all our projects
- increase the reach of our Conservation on the Road programme, in line with our work to boost heritage skills
- align our work in conservation to our ambitions for engaging young people and communities in heritage.

Conservation on the road

It's important to involve people in our work, not just to tell them about it. Our Conservation on the Road van is a fully equipped, mobile workshop that travels between English Heritage sites, helping our visitors to understand what we do and why it matters through a mixture of engaging, hands-on activities. Since its launch in 2021, activities have included stone masonry and mortar mixing, games about damaging pests and talks on topics like painting restoration. The van is sponsored by Sir Robert McAlpine.



Making a big impression at Marble Arch

As a charity, we're always looking for innovative new ways to fund our conservation work. In 2023 major work got underway at Marble Arch, one of 48 central London statues and monuments in our care. We worked with a media agency to sell temporary advertising space on the scaffolding wrap, giving us much-needed income. It also gave us an opportunity, through Conservation in Action displays, to highlight our role in the care of the Cenotaph, Wellington Arch and memorials to individuals including Scott of the Antarctic and Florence Nightingale.



Up close to Iron Bridge

In autumn 2017 we launched our single largest conservation project to date – repairing the Iron Bridge over the River Severn in Shropshire. Constructed in 1779, the bridge was the first iron-built structure in the world, and remains an icon of the Industrial Revolution. The project presented an access challenge, but also an opportunity to tell the story of the bridge and our work in a way that had never been done before. We recruited new volunteer guides, used the hoarding to tell the story of the bridge and built a separate access platform that allowed visitors to see the work going on inside.







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