Heritage Fund

Historic England

Historic parks, gardens and cemeteries: supporting adaptation to climate change

Executive Summary

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Executive Summary

Introduction

Around 2,800 historic parks, gardens, cemeteries and other designed landscapes across the UK are formally recognised for their historic value by inclusion on registers or inventories of historic interest.

This report examines how a sample of the UK's designated historic parks, gardens and cemeteries are experiencing and responding to climate change, and what support the sector might need to adapt, while ensuring heritage significance is safeguarded.

Commissioned by The National Lottery Heritage Fund and Historic England, the study aims to provide a 'snapshot' of the current position rather than a definitive state-of-the-sector assessment.

Historic parks, gardens and cemeteries are already being directly affected by climate change. Managers are seeing impacts on the ground and describe the effects as a daily management challenge, characterised by unpredictable and extreme weather, which can cause extensive damage to planting, structures and infrastructure and contributes to rising pressures, for example, from pests and diseases.

Everyone taking part in this study accepts that climate change is having an effect. Climate change is a very clear and existential threat: all historic parks, gardens and cemeteries are at risk. Some sites are more vulnerable than others.

Study findings

The study combines four strands of work: a literature review; 23 stakeholder interviews with site managers, owners, curators and head gardeners; an online survey that generated 79 valid responses from registered or inventoried historic parks, gardens and cemeteries; and a comparative analysis of the findings. Responses represent a sample across different UK climate regions, ownership models, site types, historical periods, sizes, and grades of designation.

Across all responses, managers say that:

- rainfall is more intense and unpredictable
- storms are more frequent and more severe
- dry periods are longer and harsher, and drought is more widespread
- pests and diseases are thriving in the milder and wetter conditions
- predictable seasonal changes are disappearing

These shifts are affecting physical aspects / features such as trees, plant collections, habitats, paths, terraces, drainage systems and water bodies.

Old drainage and path systems are often no longer fit for present conditions. Sites report flooding in places that have not flooded before, and intense rainfall and waterlogged soils causing erosion and tree instability. Drought stress is contributing

to loss of mature planting. Tree loss and structural damage is increasing due to high winds. There are mounting difficulties in keeping pace with plant health threats and loss of entire plant groups to disease (including box, ash, sweet chestnut, oak) is now accepted as normal.

Managers also describe operational impacts:

- more time spent on emergency responses and reactive maintenance
- less time for forward planning, routine conservation work or training
- growing pressure to reconcile public expectations with unavoidable visible changes and site closures for safety reasons

These shifts affect financial sustainability through the increased management and maintenance requirements. They also impact how people are enjoying these sites and have consequences, such as reduced income, for ticketed sites.

Although all historic parks, gardens and cemeteries are exposed to climate risk, vulnerability is not evenly distributed; climate region has an influence:

- In the southeast, sites are mainly concerned about drought stress, tree mortality, and irrigation pressures
- In the northeast, sites experience very wet episodes with rainfall intensity that causes damage, and extensive, storm-driven, loss of trees and shelterbelts
- Northwestern sites describe excessive rainfall leading to flooding, erosion, waterlogging; increases in fungal disease, and storm damage as key problems
- In the southwest, sites also report impacts from intense rainfall, exacerbated by steep terrain and watercourses, yet can also experience prolonged droughts; westerly gales have caused most recent evidence of damage

Site size, complexity and ownership also influence adaptive capacity:

- Larger sites and publicly accountable organisations may have more internal expertise, stronger networks and more formal planning structures, but they can face slow governance processes and very costly infrastructure challenges
- Smaller sites, especially those in private or trust ownership, often benefit from faster decision making, yet they are more likely to lack conservation plans, climate risk assessments, staff resources, and access to specialist support

Often, site managers know what adaptation proposals they could implement to good effect, but financial constraints are a barrier to carrying out the work.

The **smaller sites emerged as some of the most vulnerable** because they often depend on a single owner or a very small management team and have very limited ability to fund and / or plan adaptation work.

The literature review found that while some useful climate-related guidance does exist, it is dispersed across various sectors including general gardening, amenity horticulture, arboriculture, natural environment, heritage buildings and archaeology, and rarely speaks directly to the integrated realities of historic parks, gardens and cemeteries management. Some materials - such as Historic Environment Scotland’s

structured matrix approach, the National Trust's component guidance, and Natural England's work on wood pasture and parkland habitats - offer valuable starting points. However, **there is currently no UK-wide resource for historic parks, gardens and cemeteries that takes a site manager from understanding climate risk, through heritage significance-led assessment to prioritised, practical actions**.

Key gaps found in the literature review include:

- whole-site risk assessment methods based on heritage significance
- guidance on balancing historic values with climate adaptation, and acceptable thresholds for change in relation to those values and their overall contribution to heritage significance
- practical guidance on integration of adaptation measures, carbon-reduction actions and nature-based mitigation
- clear funding pathways, particularly for planned, pre-emptive work

A major finding is that **strategic planning undertaken by parks and gardens is not keeping pace with climate change pressures**. Although about three quarters of interviewees say their sites have conservation plans, many of these plans are outdated and do not consider climate change in practical terms. **Only a small number of sites have carried out a climate risk assessment**.

Management plans are more common, but active use of them as live tools for climate adaptation is very uneven. In many cases, managers rely instead on extensive experience and informal judgement to respond to immediate operational pressures. While reliance on individuals' knowledge can be effective in the hands of skilled and experienced practitioners, it also creates risk, especially when key staff retire or relocate; where governance structures are weak; or where there is no documented framework to guide future decisions.

The result is **an inconsistent approach across the sector**. A minority of sites are working with strategic plans and prioritising actions in relation to heritage significance, but this is not universal: many others are responding to challenges in a more reactive and piecemeal way.

However, **across the UK, managers everywhere are all actively responding in practical ways where their resources allow**. Actions being taken include:

- altering the range of plant species to increase diversity and resilience
- using alternative species to 'evoke historic character'
- reducing reliance on vulnerable plants such as box
- improving soil management with deep mulches and no-dig techniques
- changing path and surfacing materials to be more durable
- re-thinking traditional bedding and lawn management
- monitoring pests and diseases more carefully and improving hygiene and biosecurity practices
- changing traditional work routines, reallocating staff to climate-driven tasks such as watering, repairs, monitoring
- where possible, investing in climate-related training

Efficient and effective water management is a central concern, with an emphasis on:

- upgrading drainage systems
- reducing intensive irrigation
- introducing more efficient irrigation methods
- improving rainwater capture and storage (storage tanks, rain gardens)
- erosion control infrastructure
- nature-based water management approaches (controlled flooding, leaky dams and re-wetting ground)

Maintenance priorities are also changing, with revised visitor safety thresholds and closure policies.

Climate adaptation is also creating some positive opportunities:

- conservation best practice is beginning to be re-examined, exploring what changes are appropriate to improve climate resilience while also conserving heritage significance
- there is a shift towards less intensive management, with, for example, leaving grass to grow long where appropriate, and consequently some biodiversity outcomes are improving
- the level of public engagement with environmental issues is growing, providing new opportunities for interpretation and informal education about climate change and its impact on historic parks, gardens and cemeteries
- climate change is starting to drive funding for work such as water management, carbon reduction, and nature-based solutions, at a landscape scale

The barriers to effective adaptation are strikingly consistent across interviews and survey responses:

- Funding - from internal budgets and external grants - is the most persistent challenge, especially for capital works such as drainage, irrigation, path renewal, erosion control, flood management and planting replacement
- Lack of time and staff resources are equally critical: climate impacts are increasing the volume of reactive work, leaving little or no capacity for strategic thinking and planning, training, or preparing funding applications
- Because guidance is fragmented, difficult to find, and too generic, it is time consuming for managers of historic parks, gardens and cemeteries to adapt and use what is available
- Access to professional advice and good examples can depend on peer networks and personal contacts, which disadvantages isolated or less well-connected practitioners

These barriers can interact rather than operate independently, for example: lack of funding increases reliance on reactive maintenance work, which in turn reduces time for planning and learning, thus reinforcing vulnerability.

Across the sector, there is also anxiety about how far adaptation can go before heritage significance is compromised. Many managers are seeking clear principles,

endorsed by the heritage agencies, to help them justify changes and make decisions with confidence. The most requested forms of support are:

- step-by-step guidance in a climate adaptation 'toolkit' specifically designed for historic parks, gardens and cemeteries
- a centralised source of sector-specific information and resources
- access to funding and grants for planning, staffing, and implementation
- support for peer networking and learning through site visits and best practice case studies
- targeted training and continuing professional development opportunities
- access to specialist consultancy support

Recommendations

In response, the report recommends five broad areas of action, developed into 12 recommendations.

Knowledge, advice and guidance

These recommendations respond to a key message emerging from the study, that managers need information that is easy to locate and far easier to use in practice.

1 Develop a climate adaptation 'toolkit' specifically for historic parks, gardens and cemeteries that is concise, practical and adaptable, and which would help managers understand climate risks, assess options and impacts on heritage significance, and justify changes where necessary. It would provide step-by-step guidance and create a shared reference point that enables a consistent approach across the sector.

2 Create an online national historic parks, gardens and cemeteries knowledge hub to bring together case studies, practical examples, and signposting to guidance, training opportunities, networks and specialist support.

Funding

Lack of funding is a primary reason why many historic parks, gardens and cemeteries cannot implement climate adaptation measures. Recommendations for **funding** aim to target support to identified areas of greatest need.

3 Put in place a funding stream for creating / updating key 'toolkit' documents to guide managers through consideration of climate change issues and adaptations in their strategic documents (conservation plans, statements of significance, management plans and climate risk assessments).

4 Create a Climate Adaptation Fund for historic parks, gardens and cemeteries infrastructure projects with specifically targeted grant schemes that enable managers to access capital funding to move the sector from pilot studies to implementation. Ideally, funding streams should be flexible and permit phased funding, rather than single project packages.

5 Fund and / or promote regional pilots, trials and demonstrations which would allow managers to learn from visible examples on the ground.

6 Invest in specific skills and peer networks to support historic parks, gardens and cemeteries and strengthen the sector's long-term adaptive capacity.

Communications

Almost half the respondents say they get negative comments around adaptive changes, and there is a need to alter public awareness of climate change and what it means for historic parks, gardens and cemeteries.

7 Communicate to the public what adaptation in historic parks, gardens and cemeteries looks like, with consistent messages explaining that climate change adaptation is a responsible and essential part of conservation.

Another observation from the study is how much head gardeners valued the contact and discussion with the study team. This leads to a recommendation to:

8 Promote conversations and build confidence, especially with smaller sites and those in more isolated locations, by enabling opportunities for discussion with knowledgeable individuals.

UK-wide co-ordination

Delivering the recommendations of this report will need support across a wide partnership. Actions have the best chance of succeeding if they are developed in a co-ordinated way with the overall aim of developing a consistent UK-wide response.

9 Seek strategic partnerships with devolved nation agencies, embracing the opportunity for focused engagement between the heritage agencies across the UK, to share thoughts on the really difficult questions facing the future of historic designed landscapes in a rapidly changing climate.

10 Gain a better understanding of registers / inventories which hold a wealth of information, to assist with strategic planning, greater understanding of vulnerability factors, and enable funding to be directly promoted to the sites most at risk.

11 Build partnerships and strengthen links across the UK's heritage agencies, historic gardens sector, and the broader horticultural and environmental networks.

Further work

This study is based on findings from 23 interviews and 79 online survey responses relating to historic parks, gardens and cemeteries on UK registers / inventories, which equates to 3.6% of the total number of sites, about 2,800. The sample size is therefore relatively small, and the range of questions very focused.

While all historic parks, gardens and cemeteries are at risk, and many sites are experiencing similar issues, vulnerabilities are variable; and while support must be sector-specific, it also needs to recognise the breadth of challenges across the full spectrum of historic parks, gardens and cemeteries for the whole of the UK.

12 Expanding the research is therefore recommended, to deepen understanding of the many issues managers and owners are facing and of the vulnerabilities of historic parks, gardens and cemeteries across different types of landscape and

landscape features; historical periods; locations, and operating conditions. Better understanding would enable limited resources to be targeted to best effect.

In conclusion

This study reveals that historic parks, gardens and cemeteries across the UK are all being affected by climate change, and that while managers are being very resourceful in responding, they urgently need tailored guidance and sector-specific support to ensure they are conserved for future generations. Adaptation to climate change must now become a mainstream part of conservation practice if heritage significance is to be conserved.

If the recommended support is put in place, the sector will be better able to make consistent, justifiable and timely decisions, and retain historic values while responding appropriately to a changing climate. Without this support, all historic parks, gardens and cemeteries will become increasingly vulnerable, placing the UK's designed landscapes at increasing risk.