

Sustainable Hertfordshire Strategy 2022

(Revised March 2023)

Hertfordshire County Council

The 2023 Sustainable Hertfordshire Strategy.
Credit: Hertfordshire County Council



A local authority approach to archaeology and climate change

how to impact policy and practice amidst fiscal pressures

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At time of writing, over 300 local authorities in the UK have declared a climate emergency. They are facing the realisation that the short- and long-term impacts of climate change must urgently determine how we approach local governance, policy and practice to secure safe, resilient and sustainable futures for communities. Driven by international commitments and national legislation (e.g., Climate Change Act 2008, Environment Act 2021) as well as real world effects like increasing extreme weather events (flooding, heatwaves, droughts), there is a clear need for action. However, this demand sits within a context of further tightening of public service spending plans.

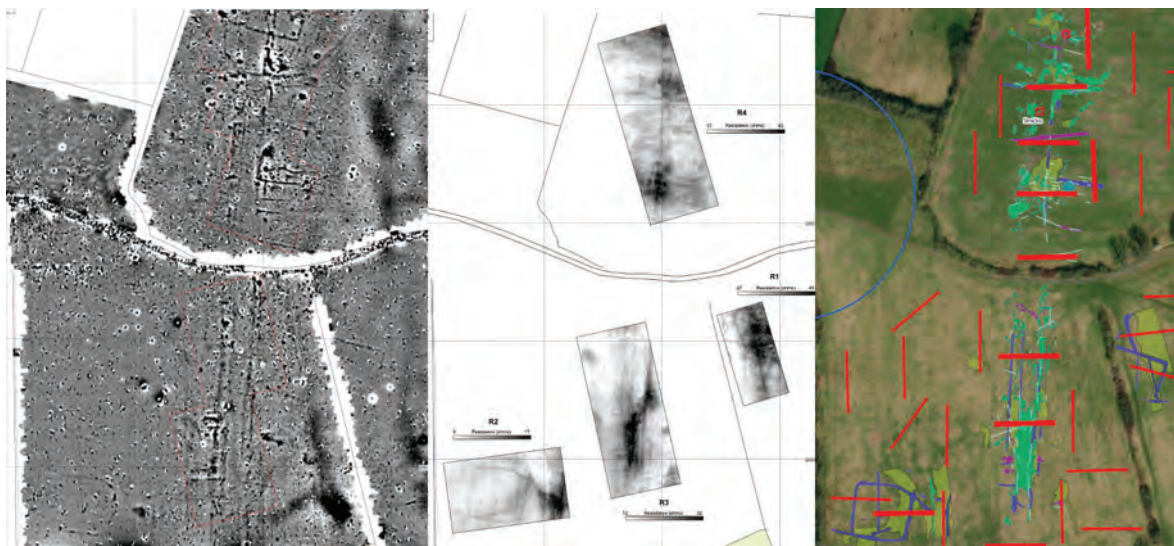
The *State of Local Government Finance in England 2024* (Stride and Woods 2024) report concluded that, as things stand, half the councils in England will be bankrupt within the next five years. Yet national commitments cannot easily be avoided, including achieving net zero by 2050, delivering a 10 per cent Biodiversity Net Gain uplift for 30 years, and accelerating clean energy. These all require commitment and delivery on a local level,

by local authorities. To deliver such widespread and significant change requires time, capacity, capabilities and resource – all now under pressure.

Despite this, local authorities are delivering; many have developed overarching strategies and policy to address global challenges, such as the 2023 Sustainable Hertfordshire Strategy or embedding climate change considerations

into Local Plans. Subtly but surely, the need to translate national climate change-relevant legislation into practice is felt across every department of local government. Historic environment teams and their advisers are no exception. And with ongoing spending pressures, the key question is what low-cost, low-risk approaches are available for teams to explore, using existing roles at hand (e.g., providing advice) to do so.

The Hertfordshire County Council (HCC) historic and natural environment teams form part of this progress. As a proactive step, HCC combined its Landscape, Ecology, Archaeology, Design and Sustainability teams into a single cross-disciplinary group, known as LEADS. LEADS (Landscape, Ecology, Archaeology, Design & Sustainability) now has the capabilities to work across silos. Together the team can collectively identify and address shared problems and explore synergistic solutions, through understanding and recognition that the



Manometry survey followed by targeted resistivity survey followed by trial trenching on a site in Hertfordshire. Credit: Hertfordshire County Council

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historic and natural environments overlap with shared considerations. Through joint thinking, LEADS has created a shared cost-effective response to climate change. For example, the HCC's Sustainable drainage systems (SuDs) team are now working alongside the Council's LEADS team to deliver new-development SuDs ponds. The LEADS team has addressed biodiversity net gain and public amenities via working with ecologists and landscape officers, and taken archaeology into account through understanding site allocation and sensitive (undesigned) archaeology.

Meanwhile, HCC archaeologists in LEADS have been working on several archaeology-focused initiatives to address mitigation, adaptation and climate change impact. They have been reviewing the whole-life process of archaeology on planning applications, understanding carbon intensive activities, addressing ways to reduce these activities, and proposing action that can both benefit the archaeology and provide long-term development sustainability. This work has taken many forms.

One such form is through archaeology advice. Since 2022, LEADS has looked into



Visual demonstration of the size of one tonne of carbon. Credit: www.carbonvisuals.com

non-intrusive investigations for archaeology, with the view of reducing the more carbon-intensive elements of excavation. By improving the quality and methods of non-intrusive surveying, we can better target potential archaeology and reduce the quantity of trenching needed to assess a site. For example, through layered geophysical survey with initial magnetometry, followed by more precise targeted survey such as resistivity or GPR, results provide a more nuanced 'scalpel' approach to excavation, maximising valuable data collection and reducing empty trenching.

As a general rule, we should be trying to make our practices as carbon efficient as possible. For instance, research has demonstrated that an average arable field contains 12.5kg carbon per m² in its soil, equating to over one tonne of carbon per standard 50 x 2m evaluation trench. A 50MW solar site in Hertfordshire contained 144 trenches equating to 180 tonnes of carbon.

This work has demonstrable relevance for renewable energy planning applications, particularly solar sites. Over the past five years, England has had a dramatic upturn in renewable energy applications, rising from approximately 750 between 2015 to 2019 to 3500 between 2020 to 2024. These developments differ from many other types of development both in terms of the scale of their physical impacts and their life span. Arguably, they also differ symbolically – and politically – because of their purpose in tackling climate change and energy security.

Archaeology is rarely a barrier to such applications receiving planning approval, as demonstrated in *The Heritage Dimension of Commercial renewable Energy development in Planning* report (Phillips and Morel 2021). Nonetheless, it must review its own practices and advice to enhance its positive contributions in addressing the climate crisis. In Hertfordshire, LEADS now takes into account development types (including

those of a temporary nature), and through enhanced non-intrusive investigatory methods, we consider whether pre-determination excavation is necessary, whether carbon-intensive excavation is justified, or whether to do so only when planning consent has been granted. Our trials on enhanced geophysics have allowed for a preservation in situ approach through a no dig policy: in consideration of the end-of-life for the solar farms at 30–40 years, the archaeology can therefore still be preserved for future research and/or generations. To ensure that unknown archaeology on the site remains a full consideration post-consent, LEADS has worked with its planners to produce nuanced conditions that allow for post-consent decisions based on evaluation results determined by its archaeological advisers. By helping archaeological contractors reduce excavation, archaeology can reduce its overall carbon emissions.

LEADS has also followed other organisations including local authorities to remove the requirement for archaeology contractors to submit physical paper copies of reports, further reducing the dependence on paper as a finite resource as well as associated costs – e.g., paper, printing, postage and the provision of storage.

Of course, the LEADS team recognise that mitigation alone cannot achieve the scale of change needed to address climate change, realising the role that the historic

environment and associated professions can have in adaptation and resilience measures as indicated in the 2022 *Global research and action agenda on culture, heritage and climate change* (Morel et al, 2022). For example, archaeologists' work builds evidence as to how and why landscapes have been shaped through human intervention, including past societies' understanding of their surroundings and consequential choices regarding land and water use and its management – much of which is overlooked today, particularly in planning. With a push to deliver housing targets and an increase in large developments, LEADS contributes to such initiatives, including a potential new Garden City and substantial extensions to historic towns across Hertfordshire. By using evidence and understandings built on decades of archaeological investigation, the LEADS team provides invaluable evidence-based advice that can help shape the layout of new settlements through master plans.

This includes using archaeological evidence and appropriate advice to tackle flooding, now constituting an enhanced role in Chapter 14 of the recently published 2024 National Planning Policy Framework (NPPF), increasing the need for SuDs and Lead Local Flood Authority input. Flooding is a planning priority, as it has a devastating impact. According to the British Red Cross (*Every time it rains: British Red Cross research on flooding in the UK*,

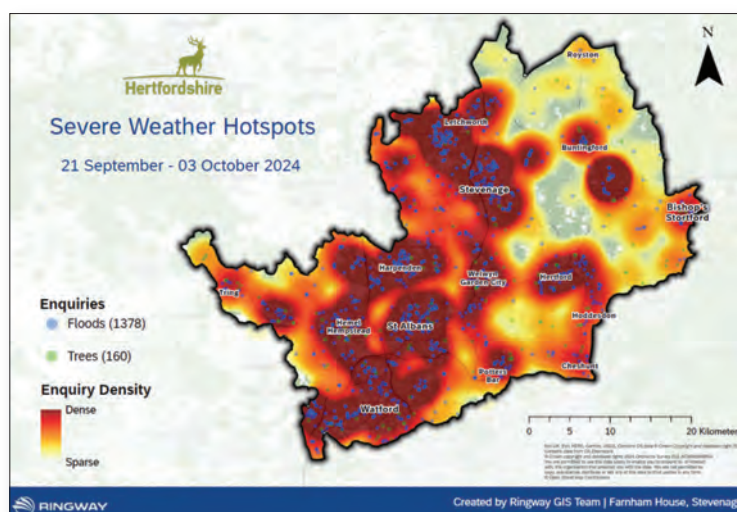
2022) the priorities for action on flooding in the UK are

- building awareness
- improving preparedness
- reducing impact
- supporting community impact
- prioritising resilience building at a national level

Research indicates the cost to the economy of flooding and managing it is over £2 billion each year (Office for Science and Technology Strategy, Foresight Future Flooding). In 2023/24 the UK had 12 named storms, breaking the record for the most storms in a season since the UK began naming storms in 2015. Hertfordshire experienced severe flooding events, with major incidents reported in Hitchin, Harpenden, Welwyn Garden City and Stevenage. Many other regions have faced similar events, resulting in significant costs to local authorities. The LEADS team are beginning to explore ways to address these impacts, such as through using archaeological evidence of lost ancient paleochannels and historic water courses and reimagining them within the context of new development to act as a natural flood alleviation scheme.

The work within the HCC LEADS team is certainly part of a wider movement across local authorities, and has proven to be a promising path that archaeology can take in a low-risk and low-cost manner. By exploiting powers that local authority archaeologists already have, subtle changes in decisions and advice can demonstrate the importance of the historic environment and archaeologists in understanding and tackling the climate crisis as well as national priorities and commitments. Archaeology – as a resource, service, tool and process – provides alternative solutions to addressing many of the concerns communities share, whether that be climate action, biodiversity, liveable places or livelihoods. Archaeologists can use their expertise to contribute to these challenges without jeopardising their own values.

Set against the backdrop of the need for growth being embedded in these decisions, this means that archaeological advice can expand beyond the narrow views of mitigation to adaptation through



Flooding in Hertfordshire caused by Storm Darragh. Credit: Hertfordshire County Council



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enhancing place-making decisions, benefiting economic, societal and environmental narratives. Archaeology can contribute to shape site layouts, including appropriate transportation networks, building types and materials based on setting and past resources, public spaces reflecting a place's past heritage and even how land use or historic water courses can mitigate flooding. By using archaeology in this way, the sector can be seen as forming part of the solution to climate change, not a barrier to be overcome, and this will inevitably make us more resilient in our changing world.

Daniel Phillips

Daniel is the Hertfordshire County Council LEADS Operations Manager and oversees the county's landscape, ecology, archaeology, design, sustainability and drainage teams. Sitting within the Sustainable Hertfordshire directorate, Daniel works closely with other HCC teams expanding the contribution the historic and natural environment can contribute to Hertfordshire's communities and priorities. Having previously worked as one of its Historic Environment Advisers, Daniel holds a Masters degree in planning and an undergraduate degree in archaeology. He is Vice Chair of Rescue: The British Archaeological Society and a Member of the ClfA Climate Change Working Group. Daniel's interests and expertise include historic environment policy and planning, place-making, climate change and sustainability.

