

## Beacons of the Past

### Citizen Science and Community Engagement in the Chilterns

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### The Project

The Chilterns Conservation Board (CCB) is delivering an exciting project which will engage and inspire communities to discover, conserve, and enjoy the Chilterns' Iron Age hillforts and their prehistoric chalk landscapes. Located in south-eastern Britain (Fig. 1), the Chilterns region has the tenth largest collection of hillforts in the UK/Ireland (Maddison, 2019), yet many are poorly preserved, and little is known about them. Supported and part-funded by the National Lottery Heritage Fund, from now until October 2021, the *Beacons of the Past* (BotP) will provide a real focus for community and public involvement through remote sensing and survey, practical excavation, and research, as well as a programme of events and educational activities. The project will help people connect with the prehistory of the Chilterns and encourage them to visit and enjoy the hillforts and their landscapes through practical research and conservation skills. As a result, Chilterns hillforts will be better understood, in better condition, and more accessible.

An exciting first step is a LiDAR survey of the Chilterns—the first of its kind in this area. Environment Agency (EA) LiDAR data has wide, and growing coverage of the UK. In the Chilterns, large areas are still yet to be surveyed by EA, with completion planned by 2021. The EA data which does exist for the region has often been flown at 1 m resolution. At this resolution, many archaeological features are not identifiable. This is particularly exacerbated under tree cover, where ground point densities are inevitably lower than for open ground.

A bespoke LiDAR dataset was therefore viewed as being of great benefit for enriching the understanding of this landscape, and through funding from the National Lottery Heritage Fund and other partners, the largest bespoke high-resolution archaeological LiDAR survey yet undertaken in the UK was commissioned. Encompassing 1400 km<sup>2</sup> (Fig. 1) and flown at a minimum resolution of 16ppm, extending to 27ppm in open ground, utilising the Riegl Q1560 LiDAR sensor, the survey offers not only the potential to reveal hundreds of new archaeological sites.

## Citizen Science

The project has worked to create a bespoke web-GIS and heritage asset management system, to allow ready, free, licence-less access to view data layers including several LiDAR visualisations, aerial photography, and large scale modern and historic mapping. Following on from the arguments of Duckers (2013), the project has put the task of interpreting the landscape into the hands of the public, understanding that 'experts' do not know the landscape as well as those who live in it, work in it, and in many cases have spent decades exploring it.

This approach has the benefit of assisting to interpret and map archaeology over the vast survey area. Papers by Duckers (ibid), Curley et al. (2018) and Lambers et al. (2019) have reported on the 'efficiency' of different techniques for analysts, both expert and non-expert. The BotP web portal explicitly asks its citizen users which visualisation technique they have used for recognising a feature, so a large dataset will be created showing the preference for and effectiveness of the different visualisation techniques offered to them.

A citizen science approach also allows a route to unprecedented engagement with the public. Not only is this data type relatively restricted to expert users, but geographic information systems (GIS) are also generally restricted to professional users, by both licence fees and knowledge barriers to their use. The project presents a simple, user-friendly, well-documented GIS system which allows engagement with audiences, many of whom will never have heard of LiDAR or GIS, and indeed many of whom may not otherwise have been interested in archaeology. It may also form a useful learning tool for archaeology or geography students, or professionals as Continuing Professional Development training.

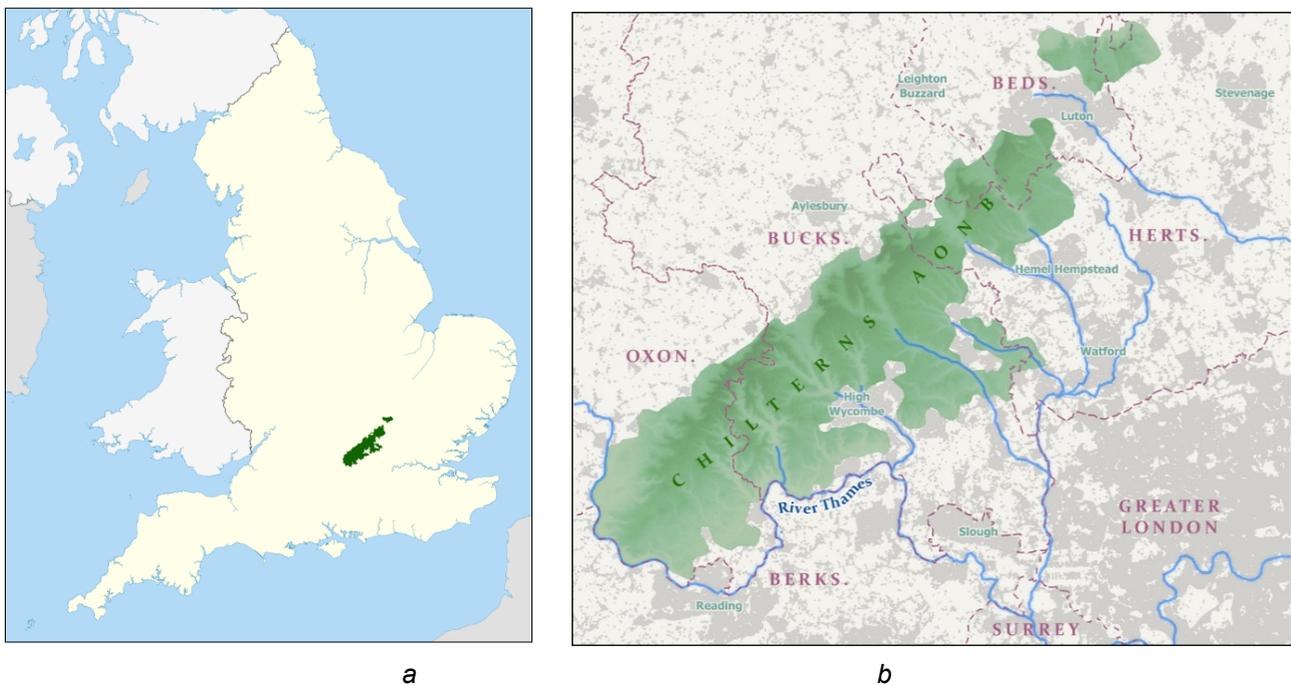


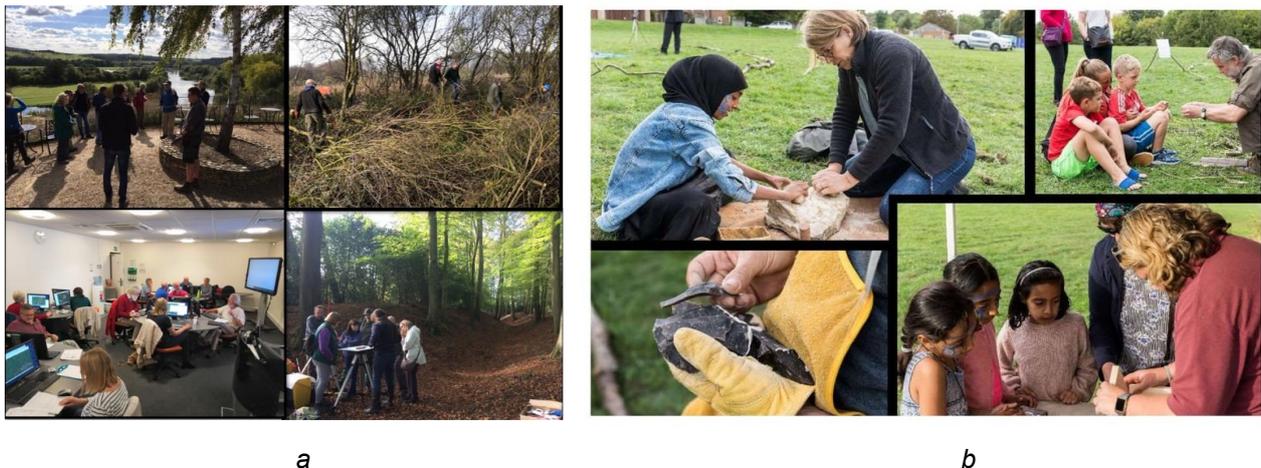
Fig. 1. Location of Chilterns in the United Kingdom. a) © Natural England 2012 b) via Creative Commons (© CCB)

## Community Engagement

A full range of activities beyond just the citizen science LiDAR transcription, including workshops, talks, activity days, and field-checking sessions, run across the AONB, opens access up to an even wider range of participants, with 1.6 million people living within 8 km of the Chilterns Area of Outstanding Natural Beauty (AONB), and the more than 50 million visits the AONB attracts every year.<sup>1</sup>

For those who would like to get more involved outdoors, the project offers a series of conservation events from litter picking on monument sites to ‘scrub-bashing’ – removing damaging and invasive vegetation from the earthworks. We have also been running training workshops in the use of Geographic Information Systems (GIS), LiDAR interpretation, and topographic survey.

As the Chilterns and its environs cover over 1000 km<sup>2</sup>, the project has split the region into four zones and deliberately replicates most events at least four times to be certain there is parity across the entire area. There is an unfortunate tradition of London- and south-centric bias in engagement projects, which this approach helps to mitigate. Of course, no community archaeological project would be complete without a little digging in the dirt—there have been small scale targeted excavations led by trained professionals but open to completely inexperienced enthusiasts, who, under careful leadership and training, have successfully excavated and recorded prehistoric features relating to the hillforts.



*Fig. 2. variety of training events offered by the project: a) Guided site visits, invasive scrub clearance, GIS training, and topographic survey training. b) Residents of the Chilterns AONB enjoy an array of hands-on experiences at Pop-up Prehistory events. (© CCB)*

Beyond the capital and practical works on sites, and the identification of new features and sites through LiDAR analysis, BotP is also delivering community events that promote understanding of prehistory and appreciation of prehistoric heritage resources. Both in the classroom through teacher support and resource provision, the project also hosts ‘Pop-up Prehistory’ events around the AONB and environs. These events are a blend of prehistoric crafting activities and living history, with hands-on learning opportunities (Fig. 2). Given the location of several large urban areas within the Chilterns, the project team has the specific aim of reaching out to and engaging with non-traditional audiences, such as the differently abled and ethnic minority communities.

<sup>1</sup> <https://www.chilternsaonb.org/conservation-board/management-plan.html>

## Conclusion

Beacons of the Past provides a real focus for community and public involvement through practical excavation and conservation work, technological and survey research, and a programme of events and educational activities.

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