PUBLIC ARCHAEOLOGY & CLIMATE CHANGE

EDITED BY

Tom Dawson, Courtney Nimura, Elías López-Romero & Marie-Yvane Daire

Public Archaeology and Climate Change promotes new approaches to studying and managing sites threatened by climate change, specifically actions that engage communities or employ 'citizen science' initiatives.

Researchers and heritage managers around the world are witnessing severe challenges and developing innovative mechanisms for dealing with them. Increasingly archaeologists are embracing practices learned from the natural heritage sector, which has long worked with the public in practical recording projects. By involving the public in projects and making data accessible, archaeologists are engaging society in the debate on threatened heritage and in wider discussions on climate change. Community involvement also underpins wider climate change adaptation strategies, and citizen science projects can help to influence and inform policy makers. Developing threats to heritage are being experienced around the world, and as this collection of papers will show, new partnerships and collaborations are crossing national boundaries.

With examples from across the globe, this book brings together a selection of papers that detail the scale of the problem through a variety of case studies. Together they will demonstrate how heritage professionals, working in diverse environments and with distinctive archaeology, are engaging with the public to raise awareness of this threatened resource. The contributions in this volume will examine differing responses and proactive methodologies for the protection, preservation and recording of sites at risk from natural forces. It will demonstrate how new approaches can better engage people with the growing number of sites that are under increasing threat of destruction, thus contributing to the resilience of our shared heritage. The new insights using real-life examples presented in this volume will make it a key reference in the field of climate change and heritage studies.

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Chapter 5

Community recording and monitoring of vulnerable sites in England

Eliott Wragg, Nathalie Cohen, Gustav Milne, Stephanie Ostrich and Courtney Nimura

Abstract

Significant archaeological sites along England's sinuous coast and on the foreshores of tidal estuaries are continually eroded by winds, waves and tidal scour. Alarmed by the rate of loss, the location of many of these sites has been noted during the national 'Rapid Coastal Zone Assessment Survey' programme initiated by English Heritage (now Historic England) and also by archaeological groups around the country. But until recently there had been no national standardised system in place to record these vulnerable sites in detail or to regularly monitor their fate over the longer term. *CITiZAN: the **C**oastal and **I**nter**Ti**dal **Z**one **A**rchaeological **N**etwork* provides a systematic national response to natural and anthropogenic forces threatening coastal and intertidal archaeology in England. The project employs similar methodologies to the recording and monitoring of fragile intertidal archaeology as its sister project, the *Thames Discovery Programme,* which has for the last decade monitored the archaeology of the Greater London Thames foreshore.

Both projects employ a system of community-based training and outreach programmes, creating an infrastructure to support a network of volunteers with the skills and systems in place to enable them to monitor and survey the highly significant but threatened archaeological sites around England's coast and foreshores. This paper looks at the evolution of the methodologies employed by these projects, both archaeological and educational, as well as the implementation of standardised recording and monitoring using crowd-sourced data, and presents key findings from this 'citizen science' programme. Coastal erosion can rarely be halted, but the hope of TDP and CITiZAN is to involve the public in such a way that will help ensure archaeological sites can be recorded before they are destroyed.

Intertidal archaeology in England: the evolution of a discipline

If archaeology is a relatively modern practice, then intertidal archaeology is a veritable babe in arms. While antiquarians had long seen the Thames as a source of artefacts, it was Sir Mortimer Wheeler (1928) who first identified archaeological features on the Thames foreshore at Brentford in the late 1920s. The first attempt to systematically record the intertidal archaeology of London was undertaken by Ivor Noel Hume in the 1940s and 50s, conducting walkover surveys and plotting the location of finds and features, his discoveries being published in *Treasure in the Thames* (Noel Hume 1956). In the 1970s and 80s, the Wandsworth Historical Society and the West London Archaeology Group recorded prehistoric deposits in Putney and Barn Elms (Anon. 1971). Further afield, in the Humber Estuary Ted and Will Wright discovered the Ferriby boats from the 1930s to 60s (Wright 1976); in 1970, the Graveney boat was recovered from the Kent mudflats (Fenwick 1978); while valuable work by John Allen, Derek Upton and Martin Bell amongst others at places such as Goldcliff and Redwick led to the formation of the Severn Estuary Levels Research Committee (SELRC) in 1985 (Bell 1991).

It was in the 1990s that the archaeology of the Thames foreshore began to receive the first sustained attention since the days of Noel Hume. In 1993, Institute of Archaeology

student Richard Hill (1996) recorded prehistoric peats containing lithics and faunal remains along with post-medieval ship timbers at Chambers Wharf, Bermondsey, while Gustav Milne and Jon Cotton surveyed the remains of a Bronze Age jetty or bridge at Vauxhall (Milne *et al.* 1997; Milne 2002). These discoveries led to the formation of the Thames Archaeological Survey (TAS) by the London Archaeological Research Facility at University College London and the Museum of London. An initial pilot study followed by a more comprehensive survey was undertaken between 1996 and 1999, funded by English Heritage and the Environment Agency. Riparian boroughs in Greater London were divided into 'zones' each with its own site code, which were subject to initial walkover surveys and, where appropriate, subsequent, more detailed recording of individual features. Each feature or deposit was allocated an 'alpha' (identification) number and located on large scale Ordnance Survey maps; more than 2500 such features and deposits were recorded, including Anglo-Saxon fish traps, an Iron Age causeway, post-medieval nautical remains, barge beds, gridirons (frames for supporting a ship in dock), river stairs and causeways. Notable finds included a Neolithic beater or club from Chelsea (Webber with Ganiaris 2004), prehistoric human remains and a Roman intaglio (Fig. 5.1).

A remarkable range of sites and features recorded in the English coastal zone had been identified by the end of the 20th century (Fulford *et al.* 1997), and work by individuals was being undertaken at some of these locations around the country, such as at Langstone Harbour (Allen and Gardiner 2001). By the close of the decade, English Heritage (now Historic England) had commissioned the Rapid Coastal Zone Assessment Surveys (RCZAS; Murphy 2014, xi–xv), which began a systematic cataloguing of the fragile archaeology of the English coast.

In the new millennium, intertidal archaeology has grown exponentially. Organisations such as the Nautical Archaeology Society (www.nauticalarchaeologysociety.org), the Hampshire and Wight Trust for Maritime Archaeology (now the Maritime Archaeology Trust; www.maritimearchaeologytrust.org), and the Maritime Archaeology Sea Trust (www.thisismast.org), as well as independent researchers have worked at sites along the English coast such as Forton Lake (Beattie-Edwards and Satchell 2011) and Bamburgh Castle, and the RCZAS have continued to attempt to quantify the coastal archaeological resource.

Figure 5.1. Roman intaglio discovered on the Southwark foreshore (Photo: © Museum of London).

The success of the TAS led to the creation of the Thames Discovery Programme (TDP; www.thamesdiscovery.org) which received a Heritage Lottery Fund grant in 2008 and was managed by the Thames Estuary Partnership and the Thames Explorer Trust until 2011, since when the project has been hosted by Museum of London Archaeology (MOLA; www.mola.org.uk). Following the methodology of the TAS, the project aims to communicate an understanding and informed enjoyment of the historic waterway to the widest possible audience, whilst also preserving by record the fast eroding archaeology of the River Thames.

Subsequent to the TDP, the three-year Coastal and Intertidal Zone Archaeological Network (CITiZAN) project (2015–17; citizan.org.uk) was set up by MOLA with a grant from the Heritage Lottery Fund, match-funding from the Crown Estate and the National Trust, together with support from Historic England and project partners the Council for British Archaeology (CBA; new.archaeologyuk.org) and the Nautical Archaeology Society (NAS). The initiative owes much to the work of the Scotland's Coastal Heritage at Risk Project (SCHARP) in Scotland (www.scharp.co.uk; Dawson 2015), Arfordir in Wales (www.ggat.org.uk/arfodir), and the TDP and SELRC in England (www.selrc.org.uk). The focus is upon coastal archaeology, those aspects of the national heritage that are (broadly) unique to this dynamic zone, such as coastal industries, coastal defences, wrecked and abandoned ships, boats and barges and palaeolandscapes exposed between the high and low water marks. Sites and features recorded during the pioneering RCZAS form the invaluable data set that underpins the CITiZAN programme. This varied suite of heritage assets is threatened by continuing coastal erosion and tidal scour, natural processes that are both the agents of discovery and agents of destruction. As a consequence, the fate of the majority of these sites currently lies outside the remit of the National Planning Framework, which sets out the UK's Government planning policies and how these are expected to be applied.

The Thames Discovery Programme: community archaeology on London's Foreshore

Twice daily, the low tide of the Thames in the Greater London Area exposes two parallel archaeological sites of extraordinary richness and complexity, divided by the waters of the present-day river yet united by the common

themes which emerge across its span. Structures, find scatters and deposits date from the Late Mesolithic to the present day, including prehistoric land surfaces and structures; Anglo-Saxon fish traps and emerging structures as yet unidentified; Medieval jetties and river defences; post-medieval consolidation of the foreshore and barge beds, ship building slipways and structures associated with ship breaking, river stairs, causeways, jetties, river defences and docks (see summaries in Cohen *et al.* 2012; Cohen 2012; Cohen and Wragg 2013). Some of these structures and deposits incorporate masonry, timber and domestic refuse from what would appear to be terrestrial origins, whilst others comprise re-used ship and barge timbers along with exotic types of stone not native to London – presumably brought in as ballast and subsequently used to help consolidate the foreshore.

As it was until recent times the greatest port in the world, London's foreshore at low tide would have been a hive of activity – explaining the myriad finds and structures of archaeological significance – whilst its importance as a source of food, as a trading and communication artery, and thus a place of settlement in prehistory is signified by the plethora of finds and structures so far found dating to this period (*e.g.* Sidell *et al.* 2002). It would seem that for millennia, with some significant exceptions at focal points for transhipment, the Thames foreshore in London has undergone a regime of deposition, be it natural peat formation and alluvial sedimentation or anthropogenic action. In recent years, paradoxically, as the volume of shipping in the river has atrophied, the topographical regime of the foreshore has broadly changed to one of erosion. This can be explained by the foreshore no longer being a workplace, so there is no need for anyone to maintain consolidation; by fewer vessels on the river travelling much faster and thus creating more wash; and by an increased flow of the river itself, caused both by sea level rise and increased rainfall causing more water to flow downstream.

The Thames foreshore today, therefore, is a highly dynamic environment, primarily, but not exclusively, one of erosion. The river is not controlled by archaeologists and it does not erode stratigraphically; one can find that numerous features and deposits of differing type and date may be revealed simultaneously. This then is the challenge for the TDP – not only to try to record features and deposits as they emerge and are soon washed away, but to attempt to identify, synthesise and interpret them.

The TDP, with only a very small staff, could not possibly hope to deal with such a range of archaeological features and deposits, or with the rapidity of their exposure and subsequent disappearance without the stalwart and vital work carried out by their volunteers. To date, almost 600 members of the community have undertaken TDP training, which now comprises a 4-day course including lectures, guided walks and fieldwork sessions. Once trained, the volunteers become members of the Foreshore Recording and Observation Group (FROG) and can form their own smaller groups to take 'ownership' of specific sites along the river. They regularly monitor these, noting the condition and presence or absence of previously known features and deposits and identifying and recording the position of those newly emerged. As a result of this monitoring work, the TDP can arrange centrally run fieldwork weeks to record the newly emergent archaeology in more detail before it is eroded or washed away. The volunteers have also undertaken substantial documentary, cartographic and pictorial research into various sites and themes.

When TDP was in its infancy it soon became apparent that members of the public with no archaeological experience, whilst extremely enthusiastic and very willing to learn, were lacking in confidence without supervision. The monitoring system, therefore, was designed to be, and to feel, as user-friendly and simple as possible. Plans for each zone were drawn up showing the locations of each feature or deposit identified by their identification (alpha) number, while site monitoring packs with a short description and photograph of each feature or deposit were provided. *Pro forma* monitoring sheets were created which on the first page asked a series of basic questions within a table:

1. Predicted height of low tide?
2. Is the feature visible? Yes/No
3. Is it more or less visible? More/Less
4. Has the feature moved? Yes/No
5. Photograph number?
6. Sketch number?

The decision was taken to refer to the visibility of a feature or deposit, rather than its presence or absence, as they may have been covered up by deposition, the tide may not have been low enough, or indeed they may have eroded away. Regarding features, 'more or less visible' was employed to indicate how high they stand out from the foreshore surface, not how big the feature was. For example, a feature could have lost some of its elements due to erosion, but the remainder may have been more exposed. Although there would be less of the feature extant, this would be considered 'more visible'. For deposits, visibility was defined by their extent. For features, 'less visible' therefore indicated deposition in that area of the foreshore, while 'more visible' indicated erosion. For deposits the same conclusion could not be drawn; they may have been 'more visible' due to erosion of overlying deposits or 'less visible' because they themselves were eroding or deposition was encroaching upon them. The reverse of the monitoring sheet comprised an area for free text (comments about specific features encouraged) but had a number of prompts:

1. Has the access changed?
2. Are there any new health and safety issues?

3. Was the tide low enough?
4. Is there erosion or deposition across the zone?
5. Are new features present?
6. Are there any immediate recording priorities?
7. Are the baselines still present?
8. Other comments by alpha number.

The emphasis was placed upon taking photographs of each feature and deposit on every visit, thus creating a pictorial record which could stand alone to document a site regardless of written records.

The system has proved broadly successful with each group depositing the results of each monitoring visit into a 'cloud' (in most cases Dropbox), although, given the sheer number and frequency of features and deposits on the Thames foreshore in London, the amount of paperwork required has at times proved unwieldy on site. This issue is being resolved by the new system developed by SCHARP and adopted for England by CITiZAN, described below. The second challenge – that of understanding the features where several phases or features themselves are revealed simultaneously – can be very difficult to resolve given the general lack of secure context stratigraphy. At the most intensively used sites such as the Tower of London or Old Royal Naval College, Greenwich foreshores (Fig. 5.2), the methodology has been to make yearly plans of the site thus capturing all emerging (and subsequently disappearing) elements, then to amalgamate them all into a master plan and tease out obvious alignments. At the Tower, for example, as the more obvious features were removed from the master plan, hitherto unnoticed alignments revealed themselves – in this case the 17th century consolidation revetments had been obscuring possible medieval river stair bases (Wragg 2015).

Overall the TDP has proved an extremely successful project, the volunteers of the FROG making a major and unique contribution to our understanding of London's past.

CITiZAN: evolving methodologies from the Thames to the sea

CITiZAN evolved out of this successful TDP model, flowing down the tidal Thames out to monitor and record England's coastal and intertidal heritage, from mean low water to 100 m inland from mean high water (Milne 2015a; 2015b). The project not only traces its roots to the community fieldwork and training model of the TDP but also to the innovative interactive digital data collection methodologies

Figure 5.2. FROG monitoring visit to Greenwich (Photo: © Thames Discovery Programme).

of SCHARP (Chapter 3, this volume). With a study area some 8000 km long, the scope of the project encompasses the whole of human occupation of England's coast from palaeolandscapes to 20th century military defences. This large study area also covers a variety of landscapes and dynamic environments, from the more stable rock coastlines of Cornwall to the friable clay cliffs of Suffolk sliding glacier-like into the sea, which all present different potential natural risks to England's heritage.

The project relies on mobilised and motivated groups of volunteers to carry out data collection and research on fragile coastal and intertidal heritage. This is a project focussed on education, providing training to groups already armed with local knowledge to help them to identify, monitor and preserve by record heritage at risk from threats such as erosion, scour or slippage. Just as important however CITiZAN focuses on raising the profile of coastal and intertidal archaeology and increasing awareness of the threats posed to it through an extensive outreach programme, such as guided walks, talks and social events.

CITiZANs – the volunteers – belong to local communities. There are many who were previously interested in archaeology or history before becoming involved in the project, including those already affiliated with other heritage groups or societies. However there are also volunteers with no previous involvement in archaeology who are now active in the project, including those who enjoy being on the coast, enjoy volunteering generally, those who want to learn new skills and those who want to take part in the social aspects of the project (for more information on CITIZAN demographic data, see Gill 2016). In order to manage the expectations of a varied audience and also to meet the research aims of the project, CITiZAN provides several levels of involvement which result in high quality crowd-sourced data collection, research and dissemination and a positive experience for our volunteers, regardless of the time commitment.

Volunteers who would like to be more involved can attend a two-day training course, based on the TDP model outlined above, learning more detailed fieldwork techniques, including measuring and planning, recording using standardised *pro forma* recording sheets (Fig. 5.3), locating features using off-set planning and handheld GPS and taking archaeologically-useful photographs. CITiZANs also learn how to be safe when working on the coastal zone, learning to read tide tables and be aware of risks on site. This is first carried out in a controlled environment not harried by short tide windows or inclement weather on day one, and on day two through practical application on site, recording archaeological features on a number of key training sites across England. These site-trained volunteers learn the skills they need to be self-sufficient and confident in the field, working in groups to monitor local coastal and intertidal archaeology with the support of the national CITiZAN team and network. All attendees receive a training pack containing guidance for future reference (also available to download from the project website), a skills passport confirming the methodologies learned during the course and a continued personal development certificate; all training is compatible with equivalent Archaeological Practice NVQ level 3 requirements (a work-based qualification in England, Wales and Northern Ireland; see http://www.archaeologists.net/learning/nvq).

Figure 5.3. CITiZANs using the timber hulk recording forms (Photo: © CITIZAN).

The training programme is based around key subject themes, designed to focus on four of the unique attributes of coastal archaeology (1–4) and a further two over-arching environmental themes (5–6):

1. Abandoned vessels and vessel fragments remains of boats, barges and ship (Fig. 5.4)
2. Coastal military defence features, *e.g.* forts, observation posts, anti-landing devices
3. Coastal industries, *e.g.* salterns, fish traps, wharves, ferries, flood defences, piers
4. Palaeolandscapes, *e.g.* submerged forests, prehistoric peats, footprints
5. Coastal morphological change, *e.g.* evidence for erosion or deposition past and present
6. Relative sea/river level change, *e.g.* evidence for changes in tidal range or height.

Participation in the project can be a large time commitment for volunteers, not only for the two-day training session but also for the implied future commitment of joining a local monitoring group after having attended a session. However, coastal users or heritage enthusiasts who do not wish to commit to full site training can still participate in the citizen science aspect of the project. CITiZAN has launched a digital recording system using a web-based interactive coastal map and complimentary smartphone app, based on the system in use by SCHARP to monitor heritage at risk in Scotland. Any member of the public, from dog walkers and beachcombers to fully

Figure 5.4. Hulk recording using CITiZAN app, Hooe Lake, Plymouth (Photo: © CITIZAN).

site-trained CITiZAN volunteers, can become an online CITiZAN surveyor and use the map or app to create core feature records and contribute to long-term monitoring of change by submitting survey updates.

Like the TDP, CITiZAN records data on the visibility of archaeology at the feature level, collecting information about archaeology as it is exposed in the intertidal zone. There are two main types of data captured. The first is core feature data, including location, description and period of use. Each feature has one core data record, which can be edited by CITiZAN surveyors. The second is survey update data which captures information about each monitoring visit to a feature or deposit. This includes information on the date of survey, state of the tide, any change observed due to erosion, accretion or other damage and images of the feature and surrounding environment. Each core feature record can have multiple related survey updates. Over time, this will become a vital resource to demonstrate change to not only the archaeological feature but also its surrounding environment, quantifiably and also visually through the photographic record.

CITiZAN surveyors can submit as many or as few core feature records or survey updates as they prefer. Before a CITiZAN surveyor heads out, they can prepare survey update forms for known features or deposits in the area of foreshore or coast they are visiting; these can be downloaded and saved directly in the CITiZAN app and can be accessed on a smartphone even when offline as mobile data coverage on the coast can be unreliable. For those surveyors who do not have a smartphone, these survey update forms can be downloaded from the web-browser-based interactive map and printed as hard copies. Survey information can be noted on these hard copy forms and uploaded via the interactive map when the surveyor next has access to a computer. This tool opens up opportunities for monitoring coastal heritage change to a wide audience.

In this way, data are provided directly from the CITiZAN volunteer to a centralised database and after moderation by project staff from there fed back into the wider heritage sector through deposition with the Archaeology Data Service (a national archaeological archive repository) and other appropriate repositories such as the Historic Environment

Records (HER) that are run by the local county councils. This dataset is supplemented by the more in-depth records created by site-trained volunteers monitoring local key sites across the country. CITiZAN volunteers are picking up where the RCZAS left off and crucially filling the void foretold by Murphy (2014) of long-term monitoring and actively contributing to the creation and dissemination of knowledge of at-risk coastal and intertidal heritage of England.

The future: towards sustainable community archaeology?

Both TDP and CITiZAN have been created with generous grants from the Heritage Lottery Fund. What however happens when the tap is turned off? How does the vital and ongoing work of committed volunteers continue to be organised, results assimilated, quality control assured, and wider dissemination take place?

In the case of the TDP, the project has been adopted by MOLA who generously underwrite the project – a valued contribution to the intertidal archaeology of the Thames and a magnificent commitment to community archaeology in London. TDP staff, in conjunction with the fundraising team at MOLA, has also worked to find other revenue strands. Sadly, there is now a charge for the four-day training programme, but at £100 (£50 unwaged) per course (75 year olds and over excepted), with all subsequent fieldwork and monitoring free of cost, it is hoped that the project can continue to engage with most of the community. Guided public walks of London's foreshore have provided significant income, while the project staff has also undertaken developer-led commercial intertidal work. Grant funding has also been energetically pursued: the City Bridge Trust currently fund a staff post for three years; Tideway, the body constructing the new Thames 'super sewer' are also funding a post for two years; while a one-year staff position was funded by the Council for British Archaeology. Other bodies have generously supported the project, though needless to say, fundraising work is a continuing priority. Current revenue strands, incredibly helpful though they are, do not remotely cover the full cost of the project and it is only to be hoped that other organisations may be as benevolent, appreciative and supportive of the vital work of volunteers in recording and monitoring foreshore archaeology.

The current Heritage Lottery Fund grant award to CITiZAN and match funding from the Crown Estate and National Trust supports the project to the end of 2017, but the survey and monitoring work requires a much longer-term commitment. Clearly a higher public profile would improve fund-raising initiatives, and current efforts should substantially raise the profile of the project, and therefore underpin a more effective fundraising programme, contributing towards its sustainability.

Taking a wider view, CITiZAN is actively seeking commitments from the English university sector for greater direct involvement in coastal archaeology, not least to provide long-term support for aspects of research, fieldwork and monitoring projects as well as in community outreach events and workshops. In addition, two other sustainability initiatives are being progressed. One concerns Managed Realignment Projects: for all future projects concerning major 'managed realignment' works on the coast, a condition should be written into the initial brief that there should not just be a pre-coastal heritage assets survey, but also a regular five-year post-works monitoring survey. This is because any major physical change in the topography of the coast can profoundly affect erosion and scour patterns over a wider area. Both stages of survey work – before and after the realignment – should involve or engage with appropriately trained community teams where appropriate. The second initiative concerns the compilation of 'Best Practice Guidelines' designed for coastal property owners. Since there are no protective measures regarding erosion-threatened coastal archaeology within the National Planning Framework, there is a need for a 'voluntary code of conduct' for the major agencies and institutions that own property on the coast. This could suggest that:

- Coastal property owners should be encouraged to sign up to a positive strategy for consideration of their coastal heritage assets at risk of harm or destruction caused by natural agencies.
- Coastal property owners should be encouraged to compile and maintain a listing of such features (or have demonstrable access to the relevant HER or RCZAS data or similar recent record). The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impacts of development proposals or threats from natural agencies on their significance. It could take the form of a desk-based assessment and, where necessary, a field evaluation.
- Given the dynamic nature of the coastal environment, such Coastal Heritage Asset Assessments should be updated at least once every three to five years.

Conclusion

It is clear that England's coastal and intertidal zones are home to an incredible palimpsest of archaeologically significant features and deposits, ranging from prehistoric landscapes to WWII defences. This extraordinarily rich resource is being rapidly exposed and subsequently lost due to sea level rise, increased river flows, vessel wash and natural geological changes – some caused by and some exacerbated by climate change. No government agency has the funding to sustainably curate these important cultural resources. The only way, therefore, that such archaeology can be recorded and preserved by record is by engaging with

local communities and encouraging them to take long-term 'ownership' of their local heritage. This then is at the heart of the TDP/CITiZAN model – empowering communities to undertake longitudinal engagement with their archaeology, supported by a small number of professional archaeologists based at MOLA, the NAS and the CBA readily available to advise and assist where asked.

The digital technology developed for Scotland by SCHARP, subsequently adapted by CITiZAN for the English coasts, represents a quantum leap in capacity from the paper-based system developed by TDP. Henceforward anybody, be they dog walker, bird watcher, holidaymaker, fisher or poacher can, at the tap of a button on a mobile phone, contribute to this vital work. Simultaneously, this technology will make easier the work of those more dedicated volunteers such as CITiZAN surveyors and TDP FROGs. The future of coastal and intertidal archaeology in England, therefore, is archaeology *by* the community *for* the community, supported by small project staffs. As a recent UK government liked to insist in other contexts and as widely quoted in the media – '*We're all in this together'* and '*There is no alternative*'.

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