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Proposed Policy Guidelines for Managing Heritage at Risk Based on Public Engagement and Communicating Climate Change

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ABSTRACT

The deterioration and loss of our historic environment due to natural erosive processes, exacerbated by climate change, already outpaces available resources for preservation and will accelerate over the coming century. While this process is divisive and destructive, it is also bringing together international collaborators who are developing more holistic approaches to addressing heritage at risk. In 2018, an intensive fieldtrip and series of workshops as part of the *Learning from Loss* project brought researchers and practitioners from both sides of the Atlantic together with community stakeholders. Over twelve days, the delegates considered alternative futures for heritage at risk, exploring diverse perspectives and observing action previously taken at threatened sites by both heritage professionals and local communities, often working in collaboration. Recognising that not everything can be saved, the structured discussions and site visits revealed a number of insights into ways that action could be planned in the future. The suggestions also highlighted differences in the way that heritage is managed in the UK and the US. This paper summarises the findings of the field trip and discusses how there may need to be a sea-change in thinking in the United States in order to prepare for the growing disaster facing an increasing number of archaeological monuments

KEYWORDS

Climate change; heritage at risk; archaeology; public archaeology

Introduction

The study of archaeological sites can reveal valuable information about past lives and environments, helping to answer questions of relevance today.¹ They are also places that matter to individuals and communities. Although some internationally famous sites were originally located during searches for the spectacular or grandiose site by early antiquarians, a far greater number represent lost voices of the past, including people who have been overlooked by written history or under-represented in national cultural narratives.²

There is growing awareness globally that natural erosive processes, exacerbated by climate change, are causing the deterioration and loss of heritage assets, and at present, this problem is most acute in coastal areas. In the United States, many coastal areas are suffering acute problems caused by erosion. For example, Florida has recently been

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struck by king tides in Miami and St. Augustine, the Category 5 Hurricane Michael on the Gulf Coast in 2018, and almost daily stories of the risk to coastal infrastructure due to sea level rise, all of which have awoken Floridians to their climate crisis and climate future. Florida archaeologists know they have more at risk than other southeastern states due to simple geologic reality, and an estimated 4,000 coastal sites are at risk from a one metre or less rise in sea level.³ This estimate does not include the numerous submerged historic and prehistoric resources that still await discovery or the threat from storms that encroach well beyond the one-metre mark. The picture is similar in Scotland, where hundreds of miles of sandy beaches and areas of soft dune are subjected to huge Atlantic storms. Coastal Zone Assessment Surveys carried out in Scotland since the mid-1990s have identified thousands of sites at risk from coastal processes.⁴

Although the problem is often more visible at the coast, the threat to heritage is far wider and sites all around the world are threatened. In many countries, the costs of mitigation already outpace available resources, a problem that will accelerate over the coming century. Faced with unstoppable challenges, a 'do-nothing' approach is sometimes regarded as the default option,⁵ but the intersection of climate change with heritage also provides an opportunity to explore fundamental questions about value, preservation, and the role of heritage in society.⁶

The scale of the problem means that responses to loss can only benefit from a global perspective. To explore how society should react, the *Learning from Loss* project was devised.⁷ Funded by the Scottish Universities Insight Institute (SUII), the Scotland Coastal Archaeology and the Problem of Erosion (SCAPE) team at the University of St Andrews and University of Stirling were lead partners. International participation consisted of the Florida Public Archaeology Network (FPAN), the US National Park Service (NPS) and the University of West Florida. Other core members included representatives from Historic Environment Scotland (HES) and several Scottish Local Authority archaeologists. However, of particular importance, and crucial to the aims of the project, was the inclusion of members of local communities and heritage groups from various locations along the east coast of Scotland and the Orkney Islands. In the UK, there is a long tradition of working with local groups, and projects where both professional and volunteers work together in meaningful and collaborative ways have been advocated previously for sites at risk from climate change.⁸ Many of these people had worked with SCAPE previously as part of the Scotland's Heritage at Risk Project (SCHARP),⁹ undertaking practical projects at eroding coastal sites.

The involvement of HES and the NPS brought in the perspective of agencies tasked with managing heritage at a national level, while SCAPE and FPAN had worked separately to engage the public and protect sites at risk for a combined 35 years. FPAN's involvement derived from existing collaboration with the University of St Andrews, partly as Florida and Scotland face similar challenges, and because they operate similar programmes focused on coastal heritage at risk. Elements of SCHARP acted as the model for FPAN's Heritage Monitoring Scouts programme.¹⁰

The project aimed to feed into sector-wide change via Scotland's Archaeology Strategy, and to be of wider societal relevance by giving insights into how to foster greater understanding of climate change impacts in Scotland and beyond. The project also aimed to aid FPAN's mission to assist Florida Division of Historical Resources, local

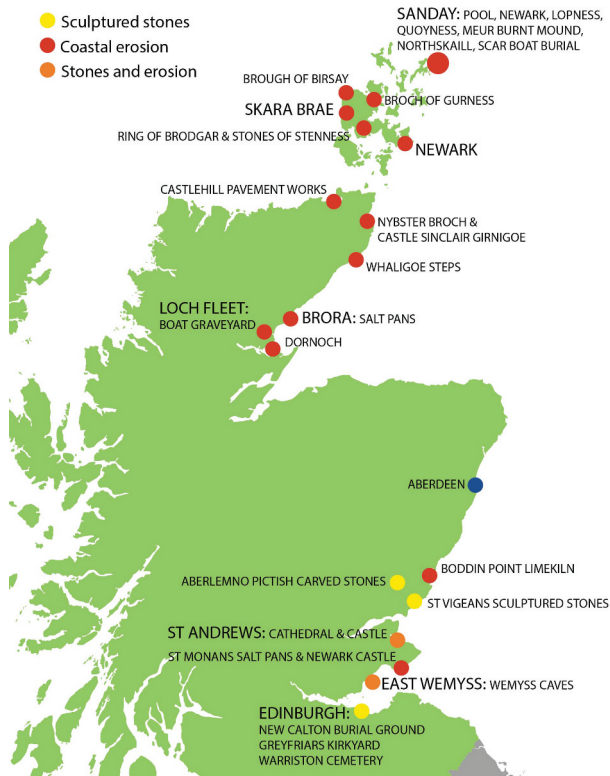


Figure 1. Map of sites visited, with places mentioned in the text highlighted.

governments, researchers and coastal communities in similar difficult decision-making processes.

The group's overarching theme was to explore ways of responding to transformation in the historic environment in the face of accelerating impacts of climate change. The group focussed on the inevitable loss of coastal and carved stone heritage from processes such as coastal erosion, intense storms, new patterns of rainfall and temperature variations. To aid discussion, a core group journeyed north from Edinburgh through Fife, Angus and Aberdeenshire before catching a ferry to the Orkney Islands; returning down Scotland's north east coast (Figure 1). Along the way, they visited numerous sites with local curators and community group members, hearing their impassioned concerns about, and hopes for, local heritage sites.

During the trip, the group made a film,¹¹ recording views of several of the participants, together with a number of climate stories¹² based on the methodology proposed by Rockman and Maase.¹³ The final project report is also available on the Learning from Loss project page of the SUII website.¹⁴

The Current Situation

Before discussing the findings of the programme, it is worth reviewing existing structures for site protection and why these may not be adequate for dealing with the impending crisis. Although natural processes exacerbated by climate change present one major threat, other factors noted include development, anti-social behaviour, poor management, neglect and political change. Adverse effects caused by human activity can be addressed by legislation, and the mechanism for legally protecting monuments (or historic sites in the US) is well established,¹⁵ albeit that legal protection does not guarantee site preservation and needs to be rigorously enforced and backed up by other means such as awareness-raising programmes.

Most countries have some form of legal protection for historic sites, and methods for determining what should be legally protected vary from country to country. In the United States, historic preservation and its regulatory framework is based on a philosophy founded in part on the National Historic Preservation Act.¹⁶ This essentially seeks to prevent human action from destroying significant archaeological remains on public land, (and other land under limited circumstances), wherein the gold standard has always been site protection by avoidance.¹⁷ The European Convention on the Protection of the Archaeological Heritage¹⁸ likewise encodes this focus on preservation in place. This notion is also embedded in models of ethical archaeology developed in various countries in the late 20th century, whereby only limited excavation essential to solve legitimate research questions is acceptable; as much as possible must be left unexcavated, and 'protected,' for the future. The process surrounding this is a system of permits and project review at various and often overlapping levels of government, all encoded in Federal, State, and local statute, policy, and rule. In general, this consultation takes place in correspondence between the applicant or archaeologists with the State Historic Preservation Office in each state at the start of the project. This process is intended to guard sites from human actions generally hunkering under the concept of development, where developers pay for actions required for site protection.

In the US, preservation programmes for archaeology are also exclusive. Sites are recorded in public databases covered by freedom of information exemptions to protect site locations from a public who is perceived as a threat (looting, vandalism). Archaeological work on public lands is done under permit only by professional archaeologists with demonstrated expertise and an approved research question, who agree to carry out the various steps of the research and reporting process to completion according to established standards. Because of constitutional protection of state's rights, the individual states enact laws to implement this programme resulting in significant variation in local practice.

In the UK, sites that have passed the test of being regarded as of *national importance* are legally protected as Scheduled Ancient Monuments. The UK also enshrines the idea of preservation *in situ* for archaeological sites, wherever possible.¹⁹ When not, (commonly during development), the *polluter pays* principle demands that developers pay for the costs of archaeological fieldwork, conducted according to strict briefs, usually by accredited organisations who work to high standards.²⁰ However, there is more willingness to include the public in certain types of archaeological exploration in the UK, and data is

more freely accessible, with online databases revealing the location of sites; and schemes aimed at encouraging the public to report discoveries.²¹

The problem is that the loss faced in both countries from climate impacts falls uncomfortably outside of the traditional regulatory framework: there is no permit to review, no project impact, no agency or developer to pay for survey, testing, and defence or mitigation.²² What is missing, especially in the US, is the triggering event that would allow state and federal agencies to take action. Although the 'Learning from Loss' programme concentrated on places in Scotland threatened by natural processes, the lack of legislation to provide protection of these resources in both the UK and the US means that there are implications for how the process might go forward on both sides of the Atlantic.

Management Options

Although globally, there is often no legal responsibility to manage sites threatened by climate, work has been undertaken in many countries, and one option is to attempt to halt decay and preserve a place in an unchanged state. When faced with the erosive effects of natural processes, *in situ* preservation may necessitate the construction of either seasonal or permanent barriers or shelters. Such constructions have been made all around the world, and during the programme, examples of protective structures were seen at some of the carved stone and coastal sites in the care of HES. Scotland has a long history of building defences for heritage and some of the earliest were built to protect St Andrews Castle and Cathedral in the 1880s (Figure 2). However, physical defence is relatively unusual for an archaeological site, and although existing defences need to be maintained, it is rare for a new defence to be contemplated in many countries, although intentional



Figure 2. St Andrews Castle and the nineteenth century coastal defence (© SCAPE/Tom Dawson).

planting of 'living shorelines' are increasingly popular as a natural infrastructure solution in the US.²³

Other forms of 'preservation' are possible and may involve conducting monitoring or research projects. Excavation is the most common form of 'preservation by record' for sites threatened by development, and rescue excavations are increasingly common throughout the world at sites threatened by natural processes. During the trip, the team visited the sites of the Viking boat burial at Scar²⁴ and the prehistoric settlement at Pool,²⁵ both on Sanday, Orkney. Relocating sites is another, albeit, less common option, and a notable example is the movement of the Cape Hatteras lighthouse in North Carolina.²⁶

Some projects to preserve heritage can be undertaken by community groups, and during the trip, delegates visited sites where the community had helped to defend an eroding graveyard at Newark, Orkney,²⁷ had excavated a salt pan in Brora²⁸ and had relocated a Bronze Age Burnt Mound from the beach at Meur²⁹ to the Sanday Heritage Centre.

A third option is to employ a 'let go' policy, where it accepted that natural processes will eventually destroy the site. This can happen either with or without some form of preservation by record in advance of the loss of the site. There is a key difference between a 'do nothing' approach and a policy where some sites are 'let-go'; in the latter, the decision is made as the result of an informed debate, usually following on from an attempt to understand the significance or value of the threatened heritage asset.

Learning from Loss

During the twelve-day programme in June 2018, over 100 participants combined their collective expertise and experience to discuss threats and management options for coastal archaeological heritage and carved stone monuments (Figure 3 and Figure 4).



Figure 3. Delegates at an eroding mill near Skara Brae, Orkney (© SCAPE/Tom Dawson).

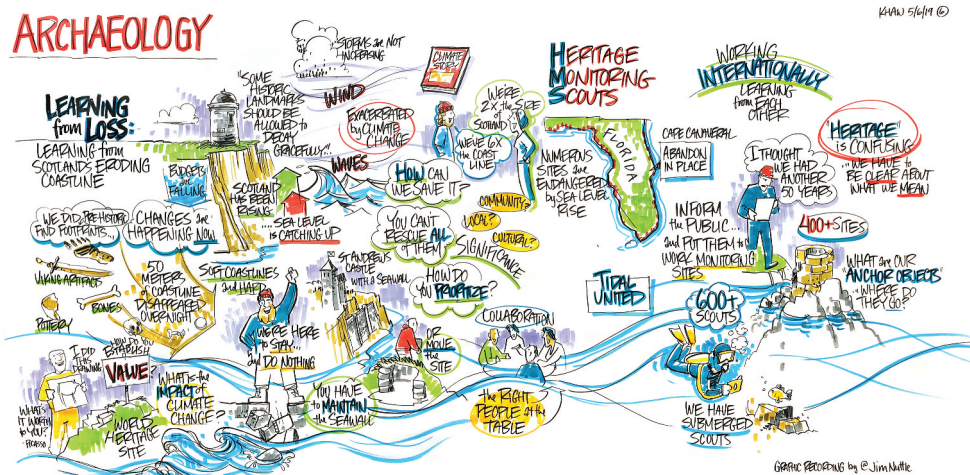


Figure 4. Graphic recording by Jim Nuttle for *Keeping History Above Water*, St. Augustine, Florida, 6 May 2019 (published with the permission of the artist and Flagler College).

Field trips were interspersed with structured workshops on the island of Sanday, Orkney, in East Wemyss, Fife and in Edinburgh; while more informal discussions were held with community members in Newark, Orkney; and Brora and Loch Fleet in East Sutherland.

During the discussions, the core group and local community members considered the following questions:

- (1) What are the main threats facing [your local] heritage?
- (2) What would be the impact upon [your community] if you lost your threatened heritage?
- (3) What is significant about [your local] threatened heritage?
- (4) What are your aspirations for [your local] threatened heritage? What needs to happen to achieve them?
- (5) If we can't take action at every site, how do we prioritise?
- (6) In order to achieve future aspirations what are the roles and responsibilities of various stakeholders?

The workshops and discussions during the Learning from Loss project revealed a number of insights and perspectives from both professional heritage managers and community members who have direct experience of heritage threatened by natural processes. We summarise these below, along with other insights, drawing strength from international collaboration between the authors. Although both carved stones and coastal heritage sites were considered during the trip, the research interests of the authors of this paper mean that the discussion will mainly focus on heritage at risk from coastal processes. However, we believe that these results are generally applicable to all heritage types threatened by a range of climatic factors; and reviews of carved stone heritage can be found on the webpages of the National Committee on Carved Stones in Scotland.³⁰

Q1. Threats

A number of different site types were visited, including Pictish carvings, graveyards with degraded tombstones, buildings collapsing into the sea and large, yet unexamined eroding sand mounds containing structures. The sites included a handful that had physical protection, but the majority did not. Discussions at each site highlighted the range of threats faced, and these were generally as discussed in publications by HES³¹ and NPS.³² It was clear that different types of heritage site face disparate dangers which can affect them over a range of time scales. Some natural impacts may be rapid and catastrophic with the potential to entirely destroy entire monuments (for example, damage caused by a hurricane). On the other hand, although a small and intricate carving may be easier to damage than an entire archaeological site, degradation due to climatic instability is likely to affect the artwork over a much longer timescale.

All heritage professionals and community representatives had a nuanced and realistic understanding of the effects of natural processes upon heritage; and understood how climate change is acting as an accelerator. However, what surprised some participants was the scale of the problem now, as opposed to what may happen in the future, which is what is usually discussed in climate risk assessments. Some sites are already suffering catastrophic damage and destruction and rather than planning for a looming crisis in the future, it was felt that heritage managers need to start taking urgent action now.

Q2. Impact of Loss

Many of the participants, especially those living in areas of rapid coastal change, had observed the loss of heritage at first hand. They recognised that not everything could be saved and regarded some loss as inevitable. This acceptance, especially by community representatives, surprised some of the delegates, who were initially concerned about how to effectively communicate the complexities of making decisions to let heritage sites go. Despite having a realistic view of loss, community participants desired respect to be shown to the heritage; both to the people who came before and to present populations. By caring for heritage sites, respect is shown to the people that created them and to the present communities in which they are situated.

Q3. Significance

The significance of a site can be measured as a combination of different characteristics or values, and during the trip, the three values most discussed were *intrinsic* (the archaeological or scientific value of the site); *social*; and *economic*.

Intrinsic Value

Intrinsic value is commonly used when determining the significance of a site. A heritage site's intrinsic characteristics can include the condition, rarity, research potential and archaeological, scientific, or other interest. Evaluations of intrinsic characteristics (together with contextual and associative) are used in Scotland when determining whether an archaeological site should be included on the Schedule of Ancient Monuments.

Subsequent to the programme, new HES guidance³³ listed the broad range of characteristics to be evaluated when scheduling a monument (designation), and these were very similar to suggestions made during the workshops. For example, on Sanday, the group value of the range of eroding monuments (even though not related to each other) was seen as important within the context of the island setting.

However, it was recognised that designation assesses value and significance taking account of the national picture and at several of the sites visited, delegates perceived a disconnect between what is considered significant at a national level and locally. This becomes especially problematic when the list of scheduled monuments is used as shorthand for a list of all important sites, possibly due to a perception that any site that is significant will have already been designated. An example where this is known to have happened is during the creation of the revised Shoreline Management Plan (SMP) for Fife,³⁴ an area that covers the Wemyss Caves. The SMP suggested options for stretches of coast (construction of defences, managed realignment, etc.) based on all assets present, but when it came to heritage, it only took regard of scheduled monuments.

The problem is that not every 'important' site has been scheduled, for a variety of reasons, and numerous examples were visited during the trip. Some sites had not been proposed for scheduling due to administrative reasons or perhaps passed over due to a conscious decision not to legally protect a monument actively affected by natural processes (as noted above, legal protection confers few advantages in the face of degradation caused by nature). However, in the majority of cases, sites which might be worthy of scheduling had not been explored sufficiently to characterise the remains, and HES's Designation Policy and Selection Guidance states that '*a place must be understood in order for its cultural significance to be identified*'.³⁵ On Sanday, local people ascribed value to many of the eroding monuments exposed at the coast edge, despite little or no archaeological investigation, because previous excavations on the island³⁶ and the activities of the local archaeological group had created an idea of what might be buried. In many cases they had observed structures exposed after storms which were then washed away or had found artefacts lying on the beach adjacent to sites. Although they probably are correct about the potential of these sites, such 'feelings' are not easy to use when designating a site as harder evidence is required. For this reason, estimations of local significance were thought to be an important factor when determining intrinsic value.

Social Value, Place and Respect

Local significance also feeds into social value, and it was recognised that many heritage sites are valued by the public for a myriad of reasons. A site may be associated with an event or tradition or may help to reinforce the present community's connection with the past. Related to this are notions of respect, a topic that came up repeatedly during site visits. Many delegates noted that a sense of 'place' contributed to significance and that the surrounding landscape can profoundly influence the experience of visitors. Sites are more valued when viewed as a part of their surrounding landscape; and setting helps to enhance a sense of place and local identity, something echoed in HES's Designation Policy and Selection Guidance.³⁷ The majority of delegates felt that, wherever possible, retaining outdoor carved stone heritage monuments *in situ* was preferable to moving them inside, even if this made managing deterioration more difficult. The strong sense of place felt by

many of the local representatives also extended to artefacts, such as objects retrieved during a rescue excavation which many felt should be displayed in local heritage centres. One example encountered was the assemblage located on Sanday during the excavation of the Scar boat burial,³⁸ and the seemingly insurmountable barriers to retaining the assemblage on the island is still a live issue.

Access to heritage was also regarded as important and enabling safe visits to vulnerable sites was seen as desirable. However, access in a wider sense, to information, academic research and to artefacts recovered during projects was also regarded as being crucial by many participants. It was felt that investing time in increasing understanding about heritage would lead to an increase in value. A range of options for opening access were suggested, including access to good quality information through websites or publications; the organisation of open days, tours and bespoke heritage centre displays; by holding recreational events at heritage sites; or through the instigation of community projects, which can lead to increased local participation and the cascading of knowledge through the community. Indeed, local community members who had participated on projects felt that the process of heritage investigation also brought other social benefits. They believed that it was essential that such work should engage with all members of the community, especially younger people who are the curators of the future.

Economic Value

The economic potential of heritage was vigorously discussed at some of the sites visited, especially where active community heritage projects were taking place. Economic considerations can underlie some decisions made by heritage managers over what to preserve, what to display and what to let go. Although economic potential is not relevant to every site (or even the majority), a balance needs to be struck as it is too important to be excluded when considering the values that contribute to the significance of a site.

Economic value could be gained directly, either through fees charged to visitors or through sales within associated interpretation or heritage centres. Visitors also help other parts of the local economy through the provision of food and accommodation. Local group members also suggested that the process of investigation could provide economic opportunities, both through the costs associated with such projects and employment opportunities provided. In order to capitalise on potential economic benefit, many local contributors felt that local Heritage Centres or similar hubs should help coordinate activities at sites. They could also provide a focus for subsequent interpretations and displays, which could then bring further economic benefit.

Q4. Aspirations for Sites

Communities want respect shown to heritage, but this work doesn't need to be resource intensive. Ways of showing respect include monitoring and caring for the sites, working to preserve elements that are immediately threatened and ensuring that the information, stories and finds from former investigations are accessible locally.

Local group members said that they wanted an opportunity to retrieve information in advance of loss, seeing the chance to turn the situation into an opportunity, with a strong desire within communities for engagement; capturing information and raising awareness

while there is still time. Additionally, involving local people in the care of sites indicates that heritage professionals have trust in communities as custodians.

Group members thought that the three values discussed, intrinsic, social and economic, could react upon each other, with an increase in one prompting a virtuous circle whereby the other two values grew. It was clear that this virtuous circle was easier to achieve at certain iconic heritage sites, and the site of Skara Brae was discussed as a good example. Here, the recognition of the intrinsic value of the site, leading to the award of World Heritage status, prompted greater awareness of the site. This led to an increase in visitor numbers, which was further stimulated by the construction of an improved Visitor Centre, complete with café and shop. Revenue was increased through entry fees and other sales; and tourists who had journeyed to Orkney stayed to visit other historic attractions, and thus further contributing to the local economy. At the same time, awareness of the unique nature of the sites, bolstered by people travelling from across the globe to visit the attractions, helped to increase the social value of the site and local pride in the heritage of Orkney. Each of these values worked with the others and increased over time.

It was felt that a similar situation, albeit at a smaller scale, was also achievable at sites with local significance. On Sanday, discussants felt that the sites could be used to help foster tourism on the island, although many said they would not like it at the scale encountered at Skara Brae. Similarly, research by the Save Wemyss Caves Ancient Caves Society, coupled with an increase in interpretation³⁹ has led to greater numbers of visitors and modest economic benefit, especially during open days. Although on a much smaller scale than at the World Heritage Site, the same processes are coming into play.

Q5. Prioritisation

The visit to the island of Sanday, where the team spent three days visiting a range of eroding sites, emphasised the sheer number of sites at risk. Although many of the sites are worthy of investigation, action of any kind is dependent upon resources. With no developer to pay, funding is limited and subject to many different competing demands and it was agreed that funding agencies and heritage managers needed to employ a method of prioritisation.

The delegates felt that the method for developing a prioritised list included considering both significance and vulnerability of a site (if a site isn't threatened, it shouldn't be included on the list). Previous projects undertaken in Scotland that have assessed vulnerability were discussed and options include desk-based assessments using modelled data, as employed during the HES Climate Change Risk Assessment⁴⁰ or, and perhaps preferably, archaeological field surveys and direct observation. Previous surveys in Scotland include the HES-supported Coastal Zone Assessment Surveys⁴¹ and updates provided by local volunteers during the Scotland's Coastal Heritage at Risk Project.⁴²

One problem highlighted in the discussion on vulnerability was a lack of standardisation in the language been used to describe varying magnitudes of vulnerability. This has resulted in a place identified as severely threatened in one system being considered only moderately vulnerable in another. This lack of parity creates difficulties when assessing vulnerability at a national scale meaning that it is not possible to apply a single set of



Figure 5. An eroding site on Sanday, one of hundreds around the coast where it is difficult to assess significance as the remains are uncharacterised (© SCAPE/Tom Dawson).

criteria to all heritage sites and situations. It was suggested that either independent sets of criteria be used depending upon site type and threat, or some form of weighting will be needed, depending upon what is being assessed.

It was also emphasised that setting priorities may create unintended consequences, such as an expectation that action will follow. As this may not always be possible, the reasons for setting priorities should be made clear from the outset, and in cases where there is a demand for action which can't be fulfilled, reasons need to be explained clearly.

Barriers to Prioritisation

As noted in the discussion on scheduled monuments, it is not unusual for coastal erosion to expose elements of archaeological sites, and many examples were seen on Sanday, where coastal erosion had cut into dunes, revealing walls and deep deposits of midden containing environmental evidence (Figure 5). With no indication of the size, age or type of site being destroyed, it is often not possible to estimate significance. More data is needed before an informed judgment can be made on site management strategies and delegates felt that such places should themselves become priorities for limited investigation to assess the significance of the threatened features.

Additionally, there are large areas where no basic survey has been undertaken, and in order to obtain a national picture of threatened heritage, there is a need to undertake more surveys. However, problems over resources means that even this work needs to be prioritised; and areas that are known to be more vulnerable to change should be examined first.

As noted above, an added complication is that intrinsic, social and economic values are subject to change, either increasing or decreasing. This means that the process of valuation needs to be reassessed when necessary, for example, after a positive or negative event or change.

Q6. Roles and Responsibilities

The need to work in partnership, both within and beyond the heritage sector, was emphasised by all project participants. This is not so unusual in the UK, but in the US, as discussed below, there are many practical and legal barriers to such an approach.

Local group members and heritage professionals saw an important role for each other in working with threatened heritage, and a collaborative approach was regarded as the best model to follow. It was felt that communities and heritage professionals complement the knowledge and aspirations held by each other.

Communication

Transparency is needed when making decisions, and good communication was seen as key when making difficult decisions, as negative outcomes can be easier to accept if the process is inclusive. Conversely, communication failures can result in poor outcomes that have long-lasting impacts. These not only affect the heritage but can also cloud local perceptions of organisations and land managers. In order to avoid such problems, more time should be invested in speaking to local people and community groups. Equally important is long-term commitment, with repeat visits to groups and direct contact with those working on the ground. In order to support volunteers and to ensure that good communication is maintained, the model employed by both FPAN in Florida and SCAPE in Scotland, of embedding (research-led) heritage practitioners with a strong community focus within academic institutions for mutual benefit was thought worth exploring further.

The Role of Communities

Benefits of involving local people in practical heritage projects include reinforcing the connection that they have with the past and helping to make more inclusive and sustainable communities. Additionally, heritage professionals who worked centrally with large national organisations recognised the valuable contribution of local volunteers and the extensive knowledge held by frontline staff. They regarded local people as playing an important role as first responders to impending heritage loss, carrying out crucial work in identifying changes, threats and opportunities as they emerged.

All stakeholders identified issues connected with the human and financial capacity of local groups, volunteer fatigue and an over-reliance on the goodwill of communities. There is a need to build and transfer capacity and provide access to support, training and funding for practitioners. Additionally, it was also recognised that despite the keen awareness of the benefits of collaborative partnership working amongst heritage professionals, there were cases where practice lags behind aspiration; and more could be done.

The Role of Heritage Professionals

Local group members said they appreciated being involved in all stages of a project, but also emphasised the value that they placed on the expertise and technical support provided by heritage professionals. They also appreciated help in presenting research results, which were then often used to help inform community decision-making.

They saw different professional groups fulfilling various roles, with some organisations providing funding and support and others helping with practicalities on the ground. Some thought that it was the responsibility of national bodies, (such as HES in Scotland),

to champion threatened sites and provide funding, with the work either done by the organisation directly or by enabling others.

Taking Action

Some delegates saw a need to ensure that resource allocation for practical action isn't solely reactive, with money going to damaged sites immediately after climatic events. It would be better to work at some sites before such damage occurred and the programme of risk assessment and prioritisation could help determine which sites to work at. The counter argument to this is that attempts to characterise sites and produce priority lists may divert funds from practical work. Some participants were concerned that entering a cycle of data collection, analysis and prioritisation could become a substitute for taking practical action.

The ideal situation would see survey and practical projects undertaken at the same time, although this may require additional resources to those currently available. The location of many important sites that demand either further assessment or practical action is already known, and work at these could be initiated in tandem with other work. This would help to raise awareness and create a sense of urgency at all levels while helping to avert community frustration and disappointment.

Another problem identified was the time it can take to start a project once the decision to act had been made. This can be due to funding cycles, application processes, regulation or even the opinions of individuals and organisations involved. Under the current situation, expectations have to be managed; and in the future, quicker and more effective routes for reaching solutions should be considered. For example, local action could be supported by streamlining permissions and by devolving greater levels of responsibility to local communities.

Implications for Policy in the United States

It must be emphasised that the findings outlined above are based after a trip around Scotland, and very much reflect the situation in the UK as outlined throughout this paper. Here, there is a long tradition of working with local groups and far greater access to information about heritage. There was much discussion about the differences between the situation in the UK and the US, where different regulatory structures and working practices based on the National Historic Preservation Act of 1966, and related state laws, make it far more difficult to involve non-professionals in practical archaeological work.

The example of Florida is one of loss from, and adaptation to, climate change. It is a story common throughout Florida's long history and is the story today of all of the state's coastal communities. Much of the coastal heritage will be lost over the course of the 21st century, including many sites of scientific prominence and community importance. For many, if not most, coastal resources, preservation as-is is not a viable option. Given that, there must be a radical rethink about how we learn about our at-risk sites before they are lost, and how we preserve our heritage for the future if we cannot preserve it in place. Although we use Florida as example, this need is being felt

throughout the country due to increasing climate crises of coastal and flood erosion, fire, and thaw.

FPAN's HMS Florida programme was launched in 2016 and is a participatory site stewardship programme modelled after SCAPE's SCHARP as one response to monitoring heritage at risk from the climate crisis.⁴³ At present, FPAN is not able to take action in most cases beyond education and outreach, but after attending the Learning from Loss programme, FPAN staff initiated a series of coastal walks and conversations about climate change with Florida communities. They decided to change the name to *Conversations with the Community about Heritage at Risk* (CCHAR) to avoid confusion with bereavement services as marketed in the US, but, inspired by the Learning from Loss format, debated questions about heritage loss in a wide variety of coastal communities including St. Augustine, Fernandina Beach, Cape Canaveral, Cedar Key, Crystal River, and Marineland.⁴⁴

Each community responded with different themes of concern, different environmental elements, and different sites at risk. But all agreed that the loss of coastal heritage will impact social and economic structure for those communities; that action needs to be taken by elected officials; and that education materials need to be developed.

The workshops and discussions highlighted that opportunity coupled with community empowerment is essential if we hope to be able to mitigate the loss of increasing numbers of coastal sites. Opportunity takes many forms, including discovery by erosion of clearly important resources, and finding ways of working with the many individuals and communities that value local resources and who want to help. Empowerment comes from professional guidance and assistance, proper training and commitment to ethical practice, and access to resources and equipment. Empowerment also requires new thinking about professional and bureaucratic processes and outcomes.

The protections and high standards in the US derive from an exclusivity that has been and remains important. But they are part of the historic preservation *status quo operandi* that needs to be navigated as we address heritage in the face of accelerating climate change and the prospect of rapid and widespread loss. A simple fact is that we face a clear and imminent crisis that this *status quo* does not address. Many heritage managers now believe that we must rethink some of our time-honoured processes if we are to remain relevant in the face of the climate crisis.⁴⁵ The current US system is based on the premise that site preservation, protection and conservation is possible. What we have learned is that in-place preservation is no longer something that can be taken for granted as a viable goal, no matter how attractive it remains. While structures can be moved or features armoured, there is the alarming yet constant reminder that whatever can be shored up, with whatever funds are available, can be washed away in just months or weeks.

The move towards confronting this new existential threat from climate change means US heritage managers also necessarily confront the legacy of site protection, exclusivity, and standards that define and inform how historic preservation looks and works at the national, state, and local levels. Our current federal and state systems focus on protection of sites from human actions, most notably development. The loss that we face from climate falls outside of our regulatory framework: tropical storms, king tides, rising sea levels, and once in a thousand-year floods do not ask permission and provide no funding for staff or action. Although development remains a bad actor, climate joins alongside but

is less predictable, less forgiving, and moving at an astonishing pace to destroy coastal and inland heritage.

Unless we recognise that a sea change is needed in our approach to heritage action (preservation may no longer be an operable term) in the 21st century we position ourselves, with our proverbial head in the fast eroding sand, to lose the fight for our heritage on our coasts and interior. Why? Because there are not enough professionals to do the work, and because we regulate archaeology as if our resources will be there for us in the future. Our mantra has always been that *in situ* preservation is our goal and our saviour, but it is becoming more evident every day that we are fast running out of time to act on many, many resources. We have no time to spare in rethinking heritage preservation to add a robust programme to address imminent loss of coastal and inland heritage. Our existing procedures, no matter how sound a response they may have been to development, are not suited for our climate crisis. We must find ways to focus attention on the problem, find approaches to save information before it is lost forever, and find a way to let the public into the fight for our archaeological heritage.

Conclusion

The problems facing heritage from natural processes exacerbated by climate change are similar on both sides of the Atlantic. The speed at which sites will be lost is unpredictable, but already, catastrophic damage is being done as a result of climatic events, and it seems certain the situation will not improve (Figure 6). Systems for dealing with heritage sites at risk from human agencies have been developed, and it is now time to consider how we should face up to these new threats. These are questions that were discussed during the Learning from Loss programme.



Figure 6. The eroding limekiln at Boddin Point (© SCAPE/Tom Dawson).

Taking action at sites brings a range of benefits for heritage and society but, with limited resources, difficult decisions need to be made and sites will be lost. Deciding where to invest resources can cause controversy, especially amongst communities who want respect shown to their local heritage. Prioritisation as an activity requires deliberation, invites collaboration, and helps measure the value of vulnerable sites. Making informed decisions, based on collaborative discussion about what is examined and what is let go, is an act that honours those sites that will be lost, and helps make decisions easier for communities to accept.

There is a history of involving the public in a range of archaeological activities in the UK, and working with communities on not only making decisions, but also on practical projects, is common. During the programme, the delegates visited local groups who had actively been involved in a range of projects. The delegates returning to the US desired to undertake similar projects, but the current hurdles for permitting and making site locations public make progress slow going. Given the rapid rate at which sites are disappearing, advocacy efforts need to increase to change the rules and expedite recording what we can.

If we do nothing about the imminent crisis, we will certainly lose sites. Rethinking our approaches to field work and reporting and involving the public in truly meaningful ways is absolutely essential to leverage the work of professionals and to reach sites that professionals simply cannot. While there are certainly risks, we must think of the balance sheet at the end of the day: we know that climate is coming for our heritage. Hide behind our *status quo* and our legacy is clear. Take the risk to do things differently, and especially to let the public in as meaningful partners, and our legacy will be, at least, that we did all that we could.

Notes

1. Jensen, "Threatened Heritage," 126–37; and Hambrecht et al., "Archaeological Sites as Distributed."
2. Potter Jr., "What is the Use," 94–107.
3. Anderson et al., "Sea-level Rise and site Destruction," [Figure 3](#) and [Table 1](#).
4. For the original surveys, see Ashmore "Archaeology and the Coastal Erosion Zone"; for more recent surveys, Dawson, "Erosion and Coastal Archaeology".
5. Dawson et al., "Coastal Heritage, Global Change."
6. Jones "Wrestling with the Social Value of Heritage."
7. SUII, *Learning from Loss*.
8. Dawson, "Taking the Middle Path," 248–67.
9. SCHARP is a programme of SCAPE to engage the public to monitor sites at risk, for more details visit <http://www.scharp.co.uk/>.
10. Miller and Murray, "Heritage Monitoring Scouts," 238.
11. SCAPE, *Learning from Loss*.
12. Hambly, *Learning from Loss: Climate Stories*.
13. Rockman and Maase, "Every Place has a Climate Story."
14. SUII, *Learning from Loss*.
15. ACHP, Section 106 Archaeology Guidance, 1–32.
16. *National Historic Preservation Act* of 1966 (16 USC. 470) (as amended).
17. US Department of the Interior, National Register Bulletin.
18. Otherwise known as the Valetta Convention: <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/066?module=treaty-detail&treatynum=143>.

19. Curtis et al, "History for the taking".
20. For example, The Chartered Institute for Archaeologists have developed a range of standards for organisations working in the UK: <https://archaeologists.net/codes/cifa>.
21. For example, the Portable Antiquities Scheme for reporting metal detector finds.
22. Lees, "The balance sheet."
23. Schupp, Beavers, and Caffrey, *Coastal Adaptation Strategies*, 8.
24. Owen and Dalland, *Scar*.
25. Hunter et al, *Investigations in Sanday*.
26. Schupp, Beavers, and Caffrey, *Coastal Adaptation Strategies*, 20.
27. For more details of the trip to Newark, see the community blog: <http://www.deernessorkney.co.uk/index.php/deerness-archaeology/brough-blog-2011-archive-information/371-the-newark-project>
28. Dawson, "A View from Scotland's Coast."
29. Dawson, Hambly and Graham, "A central role for communities."
30. <http://www.carvedstones.scot/>.
31. HES, "A Guide to Climate Change."
32. Rockman et al., *Cultural Resources Climate Change Strategy*.
33. HES, *Designation Policy*, 9–10.
34. Fife Council, *Fife Shoreline Management Plan*.
35. HES 2019, 6.
36. Bond et al., "Investigations in Sanday": Hunter et al., "Investigations in Sanday."
37. HES 2019, 10.
38. Owen and Dalland, *Scar*.
39. See www.4dwemysscaves.org.
40. HES, *Climate Change Risk Assessment*.
41. See note 4 above.
42. Hambly, *Coastal Heritage at Risk*; and Hambly, *A Review of Heritage at Risk*.
43. See note 10 above.
44. Miller et al., "Conversations with the Community," 7.
45. Lees "The balance sheet." <https://sha.org/blog/2020/01/the-balance-sheet-will-define-our-legacy/>.

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Bibliography

- Advisory Council on Historic Preservation. *Section 106 Archaeology Guidance*. Washington, D.C.: ACHP, 2009. Electronic resource viewed on 8/14/2020 <https://www.achp.gov/sites/default/files/guidance/2017-02/ACHP%20ARCHAEOLOGY%20GUIDANCE.pdf>.
- Anderson, D., T. Bissett, S. Yerka, J. Wells, E. Kansa, S. Kansa, K. Meters, R. C. DeMuth, and D. White. "Sea-level Rise and Archaeological Site Destruction: An Example from the Southeastern United States Using DINAA." *PLOS One* 12, no. 11 (2017): e0188142. doi:10.1371/journal.pone.0188142.
- Ashmore, P. "Archaeology and the Coastal Erosion Zone." In *Coastal Archaeology and Erosion in Scotland*, edited by T. Dawson, 1–8. Edinburgh: Historic Scotland, 2003. <https://issuu.com/hspubs/docs/cp—coastal-archaeology—erosion-in-scotland>
- Bond, J., A. Smith, R. Nicholson, and S. Dockrill. *Investigations in Sanday, Orkney: Vol. 2 Island Landscape through Three Thousand Years of Prehistory - Tofts Ness, Sanday*. Kirkwall: The Orcadian, 2007.
- Curtis, J., M. Fulford, A. Harding, and F. Reynolds, eds. *History for the Taking? Perspectives on Material Heritage*. London: British Academy, 2011.
- Dawson, T. "Erosion and Coastal Archaeology: Evaluating the Threat and Prioritising Action." In *Ancient Maritime Communities and the Relationship between People and Environment along the European Atlantic Coasts*, edited by M.-Y. Daire, C. Dupont, M. Baudry, C. Brillard, J. M. Large, L. Lespez, E. Normand, and C. Scarre, 73–80. Oxford: British Archaeological Reports International Series, Archaeopress, 2013.
- Dawson, T. "A View from Scotland's Coast." *The Public Historian* 36, no. 3 (2014): 31–49. doi:10.1525/tph.2014.36.3.31.
- Dawson, T. "Taking the Middle Path to the Coast: How Community Collaboration Can Help Save Threatened Sites." In *The Future of Heritage as Climates Change: Loss, Adaptation and Creativity*, edited by D. C. Harvey and J. Perry, 248–267. Abingdon: Routledge, 2015.
- Dawson, T., J. Hambly, and E. Graham. "A Central Role for Communities: Climate Change and Coastal Heritage Management in Scotland." In *Public Archaeology and Climate Change*, edited by T. Dawson, C. Nimura, E. López-Romero, and M.-Y. Daire, 23–33. Oxford: Oxbow, 2017.
- Dawson, T., J. Hambly, A. Kelley, W. Lees, and S. Miller. "Coastal Heritage, Global Climate Change, Public Engagement, and Citizen Science." *PNAS* 117, no. 15 (2020): 8280–8286. doi:10.1073/pnas.1912246117.
- Fife Council. *Fife Shoreline Management Plan*. Glenrothes: Fife Council, 2011.
- Hambly, J. 2017a. *Scotland's Coastal Heritage at Risk Project Final Evaluation Report*. Report for Historic Environment Scotland. Electronic resource viewed on July 25, 2020. http://ssharp.co.uk/media/medialibrary/2018/01/SCHARP-EVALUATION_web.pdf
- Hambly, J. 2017b. *A Review of Heritage at Risk from Coastal Processes in Scotland: Results from the Scotland's Coastal Heritage at Risk Project 2012-2016*. Report for Historic Environment Scotland. Electronic resource viewed on July 25, 2020. http://ssharp.co.uk/media/medialibrary/2018/02/Review_of_Coastal_Heritage_at_Risk.pdf
- Hambly, J., ed. 2017c. *Learning from Loss: Climate Stories*. Electronic resource viewed on July 25, 2020. https://issuu.com/joannahambly/docs/learning_from_loss_climate_stories
- Hambrecht, G., C. Anderung, S. Brewington, A. Dugmore, R. Edvardsson, F. Feeley, K. Gibbons, et al. "Archaeological Sites as Distributed Long-term Observing Networks of the past (DONOP)." *Quaternary International*, April 2018. doi:10.1016/j.quaint.2018.04.016
- Historic Environment Scotland. *Climate Change Risk Assessment*. Edinburgh: HES, 2018.

- Historic Environment Scotland. *A Guide to Climate Change Impacts*. Edinburgh: HES, 2019a.
- Historic Environment Scotland. *Designation Policy and Selection Guidance*. Edinburgh: HES, 2019b.
- Hunter, J., J. Bond, and A. Smith. *Investigations in Sanday, Orkney. Volume 1: Excavations at Pool, Sanday, a Multi-period Settlement from Neolithic to Late Norse Times*. Kirkwall: The Orcadian, 2007.
- Jensen, A. "Threatened Heritage and Community Archaeology on Alaska's North Slope." In *Public Archaeology and Climate Change*, edited by T. Dawson, C. Nimura, E. Lopez-Romero, and M.-Y. Daire, 126–137. London: Oxbow Press, 2017.
- Jones, S. "Wrestling with the Social Value of Heritage: Problems, Dilemmas and Opportunities." *Journal of Community Archaeology and Heritage* 4, no. 1 (2006): 21–37. 2017. doi:10.1080/20518196.2016.1193996.
- Lees, W. 2020. "The Balance Sheet Will Define Our Legacy." *Society for Historical Archaeology* blog. Electronic resource viewed on June 28, 2020. <https://sha.org/blog/2020/01/the-balance-sheet-will-define-our-legacy/>
- Miller, S., and E. Murray. "Heritage Monitoring Scouts: Engaging the Public to Monitor Sites at Risk across Florida." *Conservation and Management of Archaeological Sites* 20, no. 4 (2018): 234–260. doi:10.1080/13505033.2018.1516455.
- Miller, S., E. Murray, E. Dietrich, and R. Boggs. 2019. "Conversations with the Community about Heritage at Risk." Paper presented at the Florida Anthropological Society Meeting, Crystal River, May 11.
- Owen, O., and M. Dalland. *Scar: A Viking Boat Burial On Sanday*. Edinburgh: Tuckwell Press Ltd, 1999.
- Potter, P., Jr. "What Is the Use of Plantation Archaeology?" *Historical Archaeology* 25, no. 3 (1991): 94–107. doi:10.1007/BF03374153.
- Rockman, M., and J. Maase. "Every Place Has a Climate Story: Finding and Sharing Climate Change Stories with Cultural Heritage." In *Public Archaeology and Climate Change*, edited by T. Dawson, C. Nimura, E. López-Romero, and M.-Y. Daire, 107–114. London: Oxbow Press, 2017.
- Rockman, M., M. Morgan, S. Ziaja, G. Hambrecht, and A. Meadow. *Cultural Resources Climate Change Strategy*. Washington D.C.: National Park Service, 2016.
- SCAPE. 2017. *Learning from Loss: Reflection on Eroding Coastal Archaeology*. Electronic resource viewed on July 25, 2020. https://www.youtube.com/watch?v=d56y7UxiE3A&feature=emb_logo
- Schupp, C., R. Beavers, and M. Caffrey, eds. *Coastal Adaptation Strategies: Case Studies*. Fort Collins: National Park Service, 2015. NPS 99/129700.
- SUII. 2020. *Learning from Loss: Transformation in the Historic Environment in the Face of Climate Change*. Electronic resource viewed on June 18, 2020. <https://www.scottishinsight.ac.uk/Programmes/Scotland2030/LearningfromLoss.aspx>
- Teutonico, J., and F. Matero, eds. *Managing Change: Sustainable Approaches to the Conservation of the Built Environment: 4th Annual US/ICOMOS International Symposium Organized by US/ICOMOS, Program in Historic Preservation of the University of Pennsylvania, and the Getty Conservation Institute, Philadelphia, Pennsylvania, April 2001*. Los Angeles: Getty Conservation Institute, 2003. http://hdl.handle.net/10020/gci_pubs/managing_change_built_enviro.
- US Department of the Interior. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. Washington, D.C: USDI, 1995. Electronic resource viewed on August 10, 2020 https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.