

## Impact case study (REF3)

<b>Institution:</b> University of Aberdeen		
<b>Unit of Assessment:</b> 15 (Archaeology)		
<b>Title of case study:</b> Nunalleq: Climate change, indigenous community archaeology and the past in the Yup'ik present		
<b>Period when the underpinning research was undertaken:</b> 2009-2020		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Richard Knecht Charlotta Hillerdal Kate Britton	Investigator (PI and Co-I) Investigator (Co-I and PI) Investigator (Co-I and PI)	Knecht: 2008-2019, 2020-current Hillerdal: 2010-current Britton: 2010-current
<b>Period when the claimed impact occurred:</b> 2013-2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		
<b>1. Summary of the impact</b> (indicative maximum 100 words)		
<p>The Nunalleq Project, a partnership between the Native village of Quinhagak and researchers at the University of Aberdeen, is the first and only major project focused on understanding Yup'ik prehistory and precontact culture. Excavations at the unique but critically-threatened permafrost-preserved site have recovered approximately 100,000 artefacts, the majority now housed in a community-owned museum established and run by Quinhagak with support from Aberdeen. Research has enabled the preservation of cultural artefacts, illuminating the past and underpinning discussions about Yup'ik cultural heritage. The project incorporated an extensive programme of outreach and educational development, building skills within the community and changing the way Yup'ik children learn about their past. Aberdeen's research has also inspired a variety of grass-roots cultural, educational and artistic activities, including an award-winning short-film and the formation of a youth dance group.</p>		
<b>2. Underpinning research</b> (indicative maximum 500 words)		
<p>Nowhere are the effects of climate change more pronounced and destructive than in the Arctic, impacting not only the environment but the indigenous communities in these regions. In the Yukon-Kuskokwim Delta (Y-K Delta) of Western Alaska, the Yup'ik are facing life-altering decisions in an uncertain future, as rising temperatures, melting permafrost and coastal erosion threaten traditional subsistence livelihoods and settlements. For the Yup'ik – whose relationship to the environment is central to their worldview – climate change is also having profound socio-cultural impacts on the deep-rooted dependency and connection to the land. Coastal erosion is also rapidly exposing ancestral settlements in the region, rendering the archaeological record yet another casualty of modern climate change. When artefacts were found eroded out onto the beach in 2009, it became clear to the local Yup'ik community in Quinhagak that action was needed (Hillerdal et al. 2019, Britton et al. 2019) [1, 4].</p> <p>Recognising the importance of using archaeology both to rescue the artefacts and as a vehicle for exploring their culture heritage, the Quinhagak community and their village corporation (Qanirtuuq Inc.) commenced a partnership with Rick Knecht and the team at the University of Aberdeen, known in the region for their expertise in Arctic sites and in community and indigenous archaeology. The village worked with the researchers on a programme of archaeological survey, which resulted in the discovery of the Nunalleq site and a programme of community-embedded research. Yup'ik for 'The Old Village' and dating to c.1350AD-1700AD (spanning a significant period known as the 'Little Ice Age'), Nunalleq has been the focus of the first and only large-scale community archaeology project ever undertaken in a region nearly the size of the UK. A combination of the permafrost, logistical challenges and colonial assumptions that, until recently,</p>		

meant the Yup'ik were – like other indigenous groups – wrongly considered culturally static by Western academia, meant that archaeological research in the region had previously been limited (Hillerdal 2017; Britton et al. 2019) [1, 5].

Through the course of several inter-related research programs, the Nunalleq project has provided unparalleled insights into precontact lifeways in the Y-K Delta and documented and analysed the impact of archaeology on contemporary descendant groups. Beyond the dating and characterisation of the site (a densely occupied village site of semi-subterranean sod houses), its recovery and the preservation of its artefacts, key research objectives have included the exploration of past technologies, living conditions, diet and subsistence strategies, the relationship between the ancestors of Yup'ik communities and other Arctic groups, and understanding the impact of past climate change on different aspects of precontact life. As well as yielding the largest collection of Yup'ik archaeological artefacts ever recovered, permafrost and waterlogged soils at the site have preserved a unique record, including an extensive assemblage of animal bone, fur, and human hair, which have been explored via a range of scientific approaches. These have directly contributed to the team's understanding of site formation processes, living conditions at the site, subsistence practices and animal-human relationships (e.g. Ledger et al. 2018; Masson-MacLean et al. 2020) [3, 6].

Central to the development and undertaking of the project was not only the advancement of our knowledge of the past but the recognition that archaeological investigation is strengthened in community-led contexts and – more importantly - that the co-discovery of the past can play a role in strengthening community resilience, cultural heritage and identity (i.e. archaeology can be a tool for the mediation of some of the often-unacknowledged significant socio-cultural effects of climate change). With preservation of cultural heritage a priority for many Arctic communities like Quinhagak, the artefacts from Nunalleq provide avenues for imparting traditional knowledge to younger people raised in an increasingly westernised cultural environment, mitigating loss and strengthening community resilience in the face of unprecedented change (Hillerdal et al. 2019; Britton et al. 2019; Watterson and Hillerdal 2020) [1, 2, 4].

### 3. References to the research (indicative maximum of six references)

#### References:

- [1] **Britton**, K. **Hillerdal**, C. and **Knecht**, R. (eds.). 2019. The Past in the Yup'ik Present: Archaeologies of Climate Change in Western Alaska. *Études/Inuit/Studies* Special Issue (Vol 34; no.1-2).
- [2] Watterson, A & **Hillerdal**, C 2020, 'Nunalleq, Stories from the Village of Our Ancestors: Co-designing a multi-vocal educational resource based on an archaeological excavation', *Archaeologies*16: 198-227.
- [3] Masson-MacLean, E., Houmard, C., Dobney, K., Sidéra, I., **Knecht**, R., **Britton**, K. 2020. Pre-contact Adaptations to the Little Ice Age in Southwest Alaska: new evidence from the Nunalleq site (15th-17th C. AD). *Quaternary International* 549: 130-141.
- [4] **Hillerdal**, C, **Knecht**, R & Jones, W. 2019. Nunalleq: Archaeology, Climate Change and Community Engagement in a Yup'ik Village. *Arctic Anthropology* 56: 4-17.
- [5] **Hillerdal**, C. (2017). Integrating the past in the present: Archaeology as part of living Yup'ik heritage. in C Hillerdal, A Karlström & C-G Ojala (eds), *Archaeologies of "Us" and "Them": Debating History, Heritage and Indigeneity*. Routledge, pp. 64-79.
- [6] Ledger, P.M., Forbes, V., Masson-Maclean, E., **Hillerdal**, C., Hamilton, W.D., McManus-Fry, E., Jorge, A., **Britton**, K., **Knecht**, R.A., 2018. Three generations under one roof? Bayesian modeling of radiocarbon data from Nunalleq, Yukon-Kuskokwim Delta, Alaska. *American Antiquity* 83: 505-524.

#### Grants:

- 'Understanding Cultural Resilience and Climate Change on the Bering Sea through Yup'ik Ecological Knowledge, Lifeways, Learning and Archaeology' Arts and Humanities Research

## Impact case study (REF3)

Council (AHRC) Standard Research Grant (**Knecht** [PI], **Britton** [co-I], **Hillerdal** [co-I]), GBP914,212 (80% FEC), 2013-2018

- ‘Animals, Lifeways and Lifeworlds in Yup’ik Archaeology (ALLY): Subsistence, Technologies, and Communities of Change’ AHRC (UK) - LabEx (Fr) (PI **Britton** with Isabelle Sidéra [Fr], Keith Dobney [co-I] and **Knecht** [co-I]), GBP73,708, 2016-2018.
- ‘Living Heritage Workshop’ AHRC Network Grant (PI **Hillerdal**) GBP26,772, 2018.
- ‘Yup’ik Culture before Contact’ Leverhulme Major Research Fellowship (PI **Knecht**) GBP157,468, 2020-2023.
- ‘Nunalleq Culture and Archaeology Center Digital Museum’ AHRC (PI **Hillerdal** and Alice Watterson [co-I]) GBP48,357, 2021-2022.

#### 4. Details of the impact (indicative maximum 750 words)

Archaeology provides a unique link to past knowledge and traditions at an uncertain time for Arctic indigenous communities adjusting to the rapid effects of climate change. For descent groups, where respect for tradition and trust in ancestral wisdom runs deep, archaeology and particularly encounters with material culture has provided opportunities for engagement with the past and concomitant cultural identities. For the community at Quinhagak, and beyond, the impact of the research at Nunalleq has been wide ranging and profound.

##### Enabling the preservation of important cultural heritage artefacts

In 2018, the thousands of artefacts unearthed at the site over seven field seasons, were returned to the village (following specialist preservation in Aberdeen) as a collection that is the largest global assemblage of precontact Yup’ik material culture. The finds include pottery, lithics, wooden artefacts, carved ivory objects, masks and other transformative figures. Without the Quinhagak-Aberdeen partnership, most of this collection – along with the rich archaeological record of the site – would have been permanently lost to the sea through coastal erosion, along with the significant and long-term community and cross-generational social and cultural benefits of engagement with archaeology and this collection [S1]. The scientific findings of the research, particularly related to subsistence – a vital aspect of modern-day life, as well as cultural identity and pride – have also had significant personal and community impacts [S1]. As local resident Lynn Church expresses, “*The archaeological project brought back that sense of pride in our people*” and “[Nunalleq] *proves that the Yup’ik people adapted through the changing environments throughout the years, and continue to be strong with that lifestyle.*” [see S2]

##### Co-creating a new Heritage Centre within the community

The artefacts were returned to the Nunalleq Culture and Archaeology Center (NCAC) – a new museum and heritage centre established in Quinhagak by the village corporation in partnership with the University of Aberdeen. The NCAC features a rotating exhibition of items recovered from the site which, in line with the wishes and traditions of the community, are accessible for hands-on encounters reflecting the community’s sense of pride in their archaeological heritage. In the words of Elder Grace Hill “*this is where [the objects] belong... they should be here, because they [other researchers] take our artefacts all the way to the Smithsonian, leave them there and we can’t go there, this is where we can see them*” [S2]. It may be a tiny space in a small, remote village, but it has become the focal point for the study of Yup’ik Archaeology and a powerful example of what can be achieved by community-led archaeology projects within the region. The central role that the NCAC plays within the community was recognised by The U.S. Senator from Alaska, Lisa Murkowski, who nominated it for the Institute of Museum and Library Services’ 2019 National Medal for Museum Service [S3]. In a recent letter of thanks Deputy Director of the Anchorage Museum, Monica Shah, described how “*the Nunalleq collection and its Native-led curation... has set a new precedent for the ways in which the heritage field engages with Indigenous archaeology and artifacts... [it] has changed the museum landscape in Alaska... [to] one of equality and control rather than the traditional one of being colonized*” [S3].

The NCAC also includes a laboratory – unique in the region – so that artefacts can be preserved shortly after being excavated or found. Since its opening in 2018, centre staff and volunteers have worked alongside Aberdeen staff, processing artefacts and learning new skills. The lab, along with

the original excavations and now associated workshops and events brings employment and funding into the community [S1]. The collaboration has created local capacity for any future archaeological finds to be processed in the village, reducing the carbon footprint of transporting artefacts for conservation and maintaining momentum beyond the bounds of the project. It has also been seen by other regional villages as a template for sustainable local management of archaeological heritage [S4] – “a benchmark for every community” (heritage platform *Local Approach*, [S5]).

### **Increasing understanding of and participation in local traditions and culture, across the generations**

The project has raised awareness of Yup'ik heritage and cultural identity both within and beyond the community, providing new contexts for encountering, discussing and documenting the past across the generations. “*Going back and seeing our culture surfacing again through the dig, it's helping people to reconnect and the younger generation needs to be connected to that in order to know who they are and where they come from*” (Elder Willard Church, [S2]). Children who have grown up with the project have a whole new idea of what being Yup'ik is. “The archaeologists digging and discovering our people's history have definitely helped us creating a bridge to link back to our way of life, customs of life, and rules of life. With each discovery, stories and answers unfold from generations to generations. Our ancestors have passed on many values of life through what they've had before us and how they made use of everything that was available to them. Tells us they had respect to the land's animals, plants, waters, creatures, skies; life.” (local young resident Crystal Carter, [S5]).

The NCAC has become the hub for awareness-raising activities. For example, the opening of the NCAC was marked by an AHRC-funded community and regional museums 'Living Heritage' workshop that brought together experts from museums, conservation, academia and community stakeholders [S4]. The opening also saw the Center host the Yup'ik Culture Fest Workshops, funded by The CIRI Foundation and Alaska State Council on the Arts, and consisting of traditional Yup'ik dancing and music, and workshops in traditional crafting including skin sewing, uluaq making, bentwood steaming and masking making [S4]. Other activities, centred around the archaeology but initiated and run entirely independently by the community, have included community workshops at the end of every field season, carving and basket weaving, photography (run by National Geographic) and creative writing (with Scottish author Kathleen Jamie). These events identified the need for continued practical support for the NCAC and its services into the future, embodied in the 'Nunalleq Professional Friends Group' network [S4].

### **Co-creating new educational resources for use in schools**

An education pack including animated interactive educational resource, 'Nunalleq; Stories from our Ancestors', was co-created as part of this programme of research [S5]. Winner of the 2021 Archaeological Institute of America Award for Outstanding Work in Digital Archaeology, this free resource was created through a collaborative team consisting of local residents (Qanirtuuq Inc., culture bearers and Elders, teachers and a youth representative) alongside the archaeology team leaders and a production team, based at the University of Dundee. The resource is underpinned by the scientific and archaeological evidence and communicates the analytical and interpretive processes of archaeology and traditional knowledge through engaging interactive diagrams, reconstructions and animations “[taking] into account all of the stakeholder's needs resulting in a unique digital experience” (heritage platform *Local Approach*, [see S5]). Complementary to traditional Yup'ik modes of inter-generational teaching and oral histories, children hear the voices of the archaeologists, Elders, craftspeople, artists and local schoolchildren responding to the artefacts, reconstructions and stories from the site. The education pack has enabled the teaching of archaeology at the local school Kuinerrarmiut Elitnaurviat for the first time and has been met with extremely positive responses from both staff and students. It has since been distributed to schools across SW Alaska and has been trialled in schools in Scotland, as a means of teaching archaeology, climate change and cultural diversity [S5].

**Inspiring creative expression, both within and beyond the village**

The growing sense of pride that has developed as a result of the project has resulted in significant cultural outputs being created by the community. These include films on Nunalleq initiated and produced by local school children, and art by contemporary Yup'ik artist Drew Michael which draws on finds from the dig. Significantly, after a period of a century, young people have re-established a group of Quinhagak Dancers, an important part of the Yup'ik culture. Not only were the dancers inspired by the storm that uncovered the first artefact, they have also created a dance about the archaeological project they have grown up besides. Called, 'How did you live', the dance brings the complex relationships between the local community and the archaeological heritage to life [S6].

The project has also inspired people outside of the community to compose new creative pieces. A Scottish author, Kathleen Jamie, has included her 6-week experience of the excavation in her work, *Surfacing*, published by Penguin in 2019 and featured as Book of the Week on BBC Radio 4 in early 2020 [S7]. Alaskan filmmaker, Joshua Branstetter, visited the site after hearing about the project in 2017, resulting in the documentary film, 'Children of the Dig' [S2]. The documentary won the 2019 Alaskan Film Award for Best Alaskan Film and has been selected for eight film festivals across North America. Branstetter made the film because he wanted "*the new generation to see how important it is to protect our culture, how important it is to protect our stories, and the story of... the Nunalleq project is a wonderful example of how those efforts can make a difference.*"

**Enhancing broader cultural understanding**

Interest in the site has also grown nationally and internationally as research has progressed. This is reflected in the team's popular blog (<https://nunalleq.wordpress.com/>), which had 215,127 views between 2013 and 2020. The project has also attracted significant media coverage including more than 30 articles in national and international press [S8], and popular publications. Photographers and writers from National Geographic visited the site in 2015, leading to a 10-page feature in this globally-distributed magazine recording both the archaeological finds and the local people, as well as highlighting the risks to Arctic heritage created by climate change. The 'Treasures from the Tundra' invited talk at the National Geographic Museum Auditorium in Washington, D.C (2017) was attended by more than 400 people, and 'Racing the Thaw' featured as an Explorer Classroom on National Geographic Education YouTube channel (24,700 subscribers) in June 2020, with both drawing attention not only to the archaeological significance of the site but the current challenges of climate change for the community [S9].

**5. Sources to corroborate the impact** (indicative maximum of 10 references)

- [S1] Letter from Qanirtuuq Inc., Quinhagak's Native Corporation
- [S2] Group: Quotes from community members in Quinhagak (inc. documentary transcript)
- [S3] Group: The Nunalleq Culture and Archaeology Center (press, testimony)
- [S4] Group: Living Heritage and Culture Fest Workshops (minutes and event details)
- [S5] Group: The Digital Educational Resource (overview, awards and response from schools)
- [S6] Group: Local cultural revival and creative expression linked to research
- [S7] Group: Kathleen Jamie's '*Surfacing*' (author's testimony, cover art, reviews)
- [S8] Group: Example international media coverage
- [S9] Group: National Geographic feature article, talk and educational coverage