ISBN 978-1-907686-32-0

£5.00

The DuddonDig was a three-year community archaeology project run by the Duddon Valley Local History Group, guided by Oxford Archaeology North, supported by the Lake District National Park Authority and the National Trust, and with a major funding contribution from the Heritage Lottery Fund. The project aimed to provide a better understanding of early settlement in the high fells through archaeological investigation and outreach.

For further information see:
www.duddonhistory.org.uk

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HIGH LIFE IN THE UPLANDS

The Duddon Dig project

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A view of the beautiful Duddon Valley from the Long House Close excavation site (© Ian Boyle)

Special thanks should also go to the landowners and tenant farmers, whose support we enjoyed from the outset, specifically Richard Clegg, tenant of Tongue House Farm, and David Pennefather, freeholder of Long House Close, for their kind permissions to excavate on their land, and also to Katy Singleton at United Utilities, who allowed us the use of their Seathwaite Tarn access track. Thanks are also extended to Anthony Hartley, for allowing us to park the school buses on his farm, and to Ricky's Travel for providing the transport.

Numerous organisations provided generous financial support towards the cost of the project, and special mention must be made of the Heritage Lottery Fund, which provided the bulk of this funding. Other much-needed donations were kindly given by the Lake District National Park Small Grants Fund; Cumbria County Council; the Copeland Community Fund; the Sir John Fisher Foundation; the CGP Trust Fund; the Council for British Archaeology (Mick Aston Fund); and the Robert Kiln Charitable Trust.

Thanks must also be given to the professionals at OA North: Jamie Quartermaine, who led the excavations; Jeremy Bradley, on-site supervisor; Debbie Lewis; Pete Schofield; Hannah Leighton; Jon Onraet; Mike Birtles; palaeoenvironmentalists Mairead Rutherford and Denise Druce, who were instrumental in training the volunteers, and Adam Parsons who created the posters and banners, set up the blog, and orchestrated the social media for the project.

Appreciation also goes to Clive Stretton and his team of National Park Rangers, who provided access to the Tongue House Close sites, and whose strength greatly enabled us to restore Tongue House High Close 'A' to something like its original condition. Lastly, we are extremely grateful for the sterling help provided by Stephe Cove, ably assisted by his wife Mur, who not only devised and implemented the Schools' Programme, but with his IT skills allocated all the volunteers' work days, and made a detailed statistical record of events. The fact that there were no complaints is entirely down to Stephe's remarkable organisational expertise.

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Produced by Oxford Archaeology North

Printed by Print2Demand, 17 Burgess Road, Hastings, East Sussex, TN35 4NR

Foreword

Time, in most cases, and nature everywhere, have given a sanctity to the humble works of man, that are scattered over this peaceful retirement
(from *The River Duddon, A Series of Sonnets* by William Wordsworth, 1820)

In 2017, the Lake District was inscribed by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as a *cultural landscape* World Heritage Site, becoming only the 85th site to be included within this category, out of a total of 1071 World Heritage Sites globally. The term 'cultural landscape' is defined by UNESCO as representing *the combined works of nature and man,* which is sufficiently broad to encapsulate everything that is unique or special about the English Lake District, and in turn the Duddon Valley, which lies in the south-western part of the Lake District National Park. Indeed, the cultural landscape category seems to focus upon a similar set of ideas and concerns to those which drew Wordsworth to the Duddon Valley two centuries ago, and which were to find expression in the Duddon Sonnets. Wordsworth was particularly fascinated by the apparent harmony which existed between the Lakeland farmers and their natural and physical environment, and he saw expressions of this in the communal management of the commons, in distinctive vernacular architecture, and in the age-old customs that secured knowledge and memory between generations.

The physical and cultural legacy of traditional settlement, farming, and land-use in the Lake District is one of the pillars upon which inscription as a World Heritage Site rests. While Wordsworth introduced the idea of the Lake District becoming *a sort of national property*, inscription has confirmed its status as a significant international property. As such, the Lake District is now under a global spotlight and so there has never been a greater need, or better time, to deepen our understanding of the region's past.

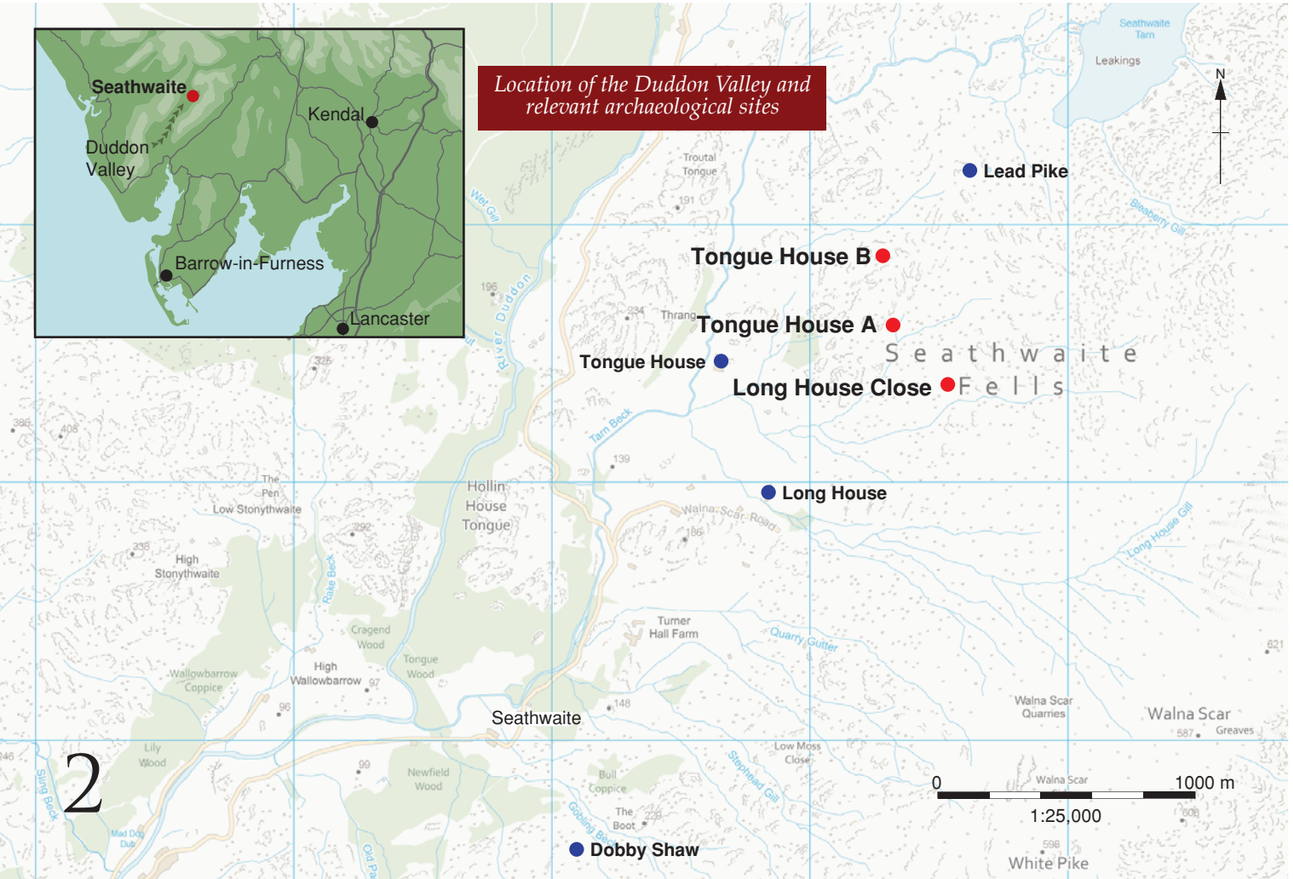
It is within this context that the recent archaeological investigations within the Duddon Valley fall. This work was undertaken by the Duddon Valley Local History Group and it has made a very important contribution to our understanding and appreciation of the rich history of this area. Significantly, the project has also allowed members of the local community to engage directly with the heritage of the region. In fact, the project would not have been possible without the dedication of the many wonderful volunteers, and thanks go to all of them for giving up their time and making the project such a great success.

Jamie Lund, National Trust Archaeologist

Background

Archaeological Investigations by the Duddon Valley Local History Group

The Duddon Valley forms an important area historically in the south-west part of the Lake District National Park. The western side of the valley is dominated by Harter Fell, while the east is overlooked by the Troutal and Seathwaite fells, with the Coniston range beyond. Rugged outcrops and ravines in the north give way to flat, arable field systems in the south. The valley head contains the junction of the Hardknott and Wrynose Passes, from where the River Duddon carves its way for about 18km in a south-westerly direction until it reaches the estuary into the Irish Sea at Duddon Bridge.



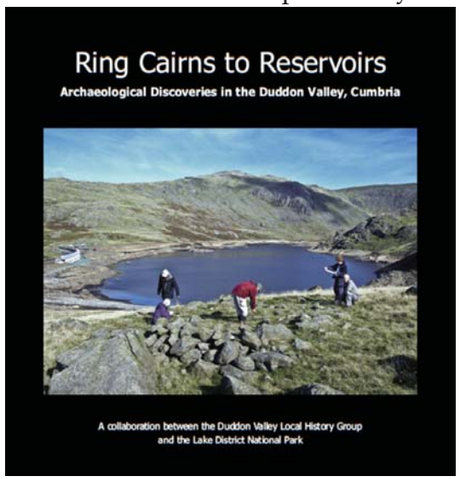
Location of the Duddon Valley and relevant archaeological sites

The Duddon Valley Local History Group (DVLHG) was formed in May 1999, with the specific aim of exploring the history of this valley. Over the years, the group has gradually gained momentum, with its membership expanding from 14, who were present at its inauguration, to over 90 today.

Excavation of the early medieval building at Stephenson Ground (© LDNPA)

The group has been active in recording and examining archaeological sites, and also uncovering the area's local history, by examining documentary evidence, particularly that relating to family history. In many respects, the genesis of the group's archaeological work lies in the investigation at Stephenson Ground in the Lickle Valley, from 1986 to 1996. An archaeological training excavation took place there and various DVLHG members became involved. The site proved to be very complex, revealing evidence of Bronze Age, early medieval and medieval activity, in the form of a palimpsest of structures.

The group's first 'in-house' project, where members had direct responsibility for the archaeological investigation, was in the Duddon Valley and in collaboration with the Lake District National Park Authority (LDNPA), the results of which were published in the book *Ring Cairns to Reservoirs*. The initial element of this project was the excavation of two Bronze Age ring cairns at Lead Pike, close to Seathwaite Tarn, in 2005 and 2007. Although the excavations did not to produce any firm evidence for the purpose of these enigmatic structures, the lack of finds or human remains did imply



The front cover of Ring Cairns to Reservoirs, *published in 2009*

Excavating a ring cairn at Lead Pike

that they were not places where people lived or were buried. These excavations proved important in other ways, however, as such was the interest and enthusiasm of the volunteers that, on behalf of the National Park Authority, the DVLHG undertook an archaeological survey of other parts of the Duddon Valley.

This ambitious survey project examined 84km^2 of the Duddon and Lickle Valleys and was completed in 2006-8, during which time 60 volunteers were trained in archaeological survey methods. Much of this survey entailed basic reconnaissance, mapping, and description, and, in all, over 3000 previously unrecorded sites were documented. Moreover, there was a huge range of different sites, from Neolithic standing stones and Bronze Age ring cairns to nineteenth-century shepherd's huts.

Following this basic reconnaissance survey, several of the identified sites were subjected to more detailed archaeological survey by DVLHG volunteers, between 2011 and 2013. These comprised 16 sites that were tentatively identified as early medieval longhouses, with potentially direct links to Viking settlers in Cumbria. The surveys indicated that three contained two cells, whilst two others were thought to be shielings. In addition, during the surveys, another putative shieling, with enclosure walls, was discovered (at How Scale Haw). It was a desire to know more about these structures which led directly to the creation of the DuddonDig project.

The original survey team on a training day at Dobby Shaw

Creating the Project

The driving force behind the project has been Peter Matthiessen, who was responsible for identifying some of the sites recorded during the basic reconnaissance survey of the Duddon Valley. Indeed, it was the identification of possible early medieval structures that prompted the subsequent programme of detailed survey at these sites. The results of these studies were published in the booklet *Longhouses in the Duddon Valley, Cumbria*, and as an article in the 2015 volume of the *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society*. As a result of these, Peter was also deservedly presented with a Personal Achievement Award by the British Association for Local History in 2017, in recognition of his work.

Although the presence of several potentially early medieval structures in the Duddon Valley had been identified, their date, development and form had not been ascertained through archaeological survey. Hence, it was recognised that archaeological excavation might allow some of these issues to be resolved. Therefore, several sites were selected for excavation, and the DuddonDig project was born.

From Survey to Excavation

It was clear from the detailed archaeological surveys that six sites showed the greatest potential for excavation. Although all were badly infested with bracken, three did seem more suitable, in terms of access and condition. Two were at Tongue House High Close (referred to as Tongue House A and B respectively), on National Trust (NT) land near Seathwaite Tarn, whilst the third site, at Long House Close, was nearby, on common land.

The DVLHG first had to obtain permission to excavate from the landowners, and get the agreement of the LDNPA and National Trust that excavation was justified. A series of archaeological objectives was therefore formulated, with the help of their archaeologists.

One of these objectives was to set the project over three seasons, during which part of each site was to be excavated, with the help of local volunteers. It was also hoped that this work might obtain evidence, from areas that had not been disturbed by bracken, which could be used to date the three sites. This evidence might comprise artefacts, such as pottery, or fragments of charcoal, which could be subjected to radiocarbon dating.

The other objectives related to an examination of the ancient economy, diet, and environment at the three sites. This included looking for evidence of stock husbandry (livestock types and numbers), as well as any evidence for crop-growing in their vicinity. In addition, any suitable deposits within and around the structures, that might contain seeds, grains, and animal bones, and also pollen, would be sampled. This evidence might then provide details of the food eaten by the former inhabitants of the structures, and could also, especially in the case of the pollen evidence, be used to gain an insight into the former environment in the area.

The project design stressed that the work should inform local people about their ancestors' ways of life, by involving them as participants in the archaeological investigation. Hence, it was considered essential that, during any further survey, bracken clearance, and excavation, the DVLHG should work with local volunteers, who would be provided with suitable training. Therefore, specific community-related objectives were developed that would engage local residents (especially school children), and those from further afield, with the archaeology and history of the area. In addition, it was anticipated that such educational outreach might have the potential to attract increased tourism to this less well-known corner of the Lake District National Park. The document also defined a strategy for reporting findings in an accessible format, and made it clear that the whole venture would take place with the guidance of a Steering Group, composed of members of the DVLHG, NT, LDNPA, and a professional archaeological unit.

Funding the Project

It was clear from an early stage that external funding would be required to undertake the programme of work. This would also allow professional archaeologists to be appointed, to provide on-site advice, and identification and analysis of samples and finds. The project would therefore not have been possible without our sponsors, big and small.

An application was made to the Heritage Lottery Fund (HLF), as it had supported the earlier Ring Cairns to Reservoirs project. As part of the application, a business case was presented in November 2015 and the grant application was approved in early spring 2016. With the funding in place, and following a tendering process, Oxford Archaeology (OA) North was appointed.

Landscape and History

The Duddon Valley is a classic cultural landscape significantly modified by humans, and a worthy part of the World Heritage Site. The valley has been inhabited since people first ventured into the area after the last Ice Age, and there are traces of human activity from all subsequent periods. The upland areas in particular, from 240m to 360m above sea level, contain extensive Bronze Age cairnfields, as well as associated field systems and settlements. In the historical era, cultivation was generally confined to the valley floors, as a result of the deteriorating climate, which encouraged peat growth on the hills, although the uplands will always have been used for stock grazing.

Despite the unsuitability of the present-day uplands for cultivation, the surveys undertaken by the DVLHG in 2006-8 found a large range of stone structures in this area, some of which were obviously connected to stock-raising, with some possible permanent occupation. An essential strand of the project was to examine

A view down the Duddon valley, with long house close on the west-facing slope (bottom left)

the rocky outcrops around Tongue House A (lower left), and Tongue House B, looking west toward the River Duddon

the medieval and post-medieval history of the valley, largely through documentary evidence. A list was compiled of the available documentary materials, held by county and national archives, to determine which sources might contain relevant historical information, and particularly for the three excavated sites.

The Medieval Landscape

It became clear that little documentary evidence survives for the medieval period. Place-names, however, such as those ending in *–thwaite* (*eg* Seathwaite), suggested clearance and settlement by Scandinavian-speaking peoples, who may have created the settlement pattern still visible today.

By the early twelfth century, the Duddon Valley had been divided between several lordships, the land on the east side of the valley seemingly being held by Furness Abbey and the de Lancaster family. The land there had been used for hunting deer and also for sheep pasture. There was also some evidence of assarting forest land by *c* 1300. Evidence for later medieval farming can be seen on the sides of the valley at *c* 200-300m. The practice of transhumance and living part of the year in shielings (seasonally occupied dwellings) was also operating at this time. The population declined, however, during the fourteenth century, as a result of the Black Death, poor harvests, and animal plagues, and this probably meant that there was less pressure to use the uplands so intensively.

Looking south from Seathwaite Tarn, showing the ring cairn at Lead Pike on the highest part of the fell, and the structures at Long House Close, and Tongue House A and B, with Seathwaite and the River Duddon on the valley floor below

The Post-medieval Landscape

By the second half of the fifteenth century, there was a substantial increase in assarting and the construction of enclosed agricultural farmsteads, creating small hamlets. This process continued in the sixteenth and seventeenth centuries, the Dissolution of the Monasteries in 1536-40 by Henry VIII providing opportunities for improving and leasing lands, which had previously been part of monastic estates, such as that owned by Furness Abbey.

This process can be seen at Seathwaite, where two hamlets, comprising two or three farmsteads, were surrounded, at a distance, by smaller farms. Each farmstead was directly adjacent to small, irregular, enclosed or inbye, fields. Larger intakes (perhaps through assarting) were present on the lower slopes of the unenclosed fell, using the becks as boundaries, which might reflect the increase in sheep farming as a response to the growth of the textile industry in the Lake District during this period. Some family properties were also expanded, and thus the open fellside became farmed in enclosed pastures. It is possible that during the seventeenth century farms may still have retained lands in the upper fells for summer pasture, and the documentary evidence suggests that Long House Close (which contained one of the excavated sites) was associated with Long House Farm, at a lower level, which certainly existed by the seventeenth century, as it is referenced in a source dating to 1683.

Further enclosure of the fells followed, culminating in the Parliamentary enclosures of the late eighteenth and nineteenth centuries. The Ordnance Survey mapping of 1850 has demonstrated that the farm buildings at both Long House Farm and Tongue House were at the centres of clusters of small irregular fields, or inbyes.

A view from Tongue House A, across to the west side of the Duddon Valley, showing developed farms and enclosed fields at a similar altitude

The Survey

The DuddonDig project started in earnest in spring 2016, and it was decided that, prior to any excavation, each of the sites chosen for excavation, two in Tongue House Close and one in Long House Close, would be subjected to further survey. It was hoped that this would provide information that could guide how the excavations at the three sites should proceed.

Topographical survey and aerial photography
This work comprised detailed topographical surveys of the sites and their immediate surroundings, which employed a variety of techniques to produce plans and images of the visible remains. A total station, which employs a small telescope (theodolite) to measure angles, with an attached electronic device (Disto) that measures distance, was used, as was a Global Positioning System (GPS), which uses satellites to locate the position and elevation of points on the ground, creating accuracies of ±2m. Aerial photography and photogrammetry were also employed, aerial photographs being taken using a digital camera attached to a small remote-controlled helicopter (a drone). Targets located by GPS provided fixed control points, meaning that these photographs could be rectified by a computer to create two-dimensional images of the sites. These were then draped over a digital terrain model to create accurate three-dimensional representations.

Taken together, the various topographical and photogrammetrical surveys confirmed that a stone-walled rectangular building existed at Tongue House A, measuring 10.45 x 4m, and containing two cells, the larger of which encompassed approximately two-thirds of the structure. It was also apparent that the building had a single entrance in its south-western wall, which led into the smaller cell. However, it seemed possible from the surface remains that originally another entrance had once existed opposite the south-western entrance, which had been blocked at a later date. This seemed to suggest that, at one stage, the cells of the building were separated by a cross-passage. It was also evident that the building was within a small enclosure, that had an entrance on its south-western side, directly opposite the entrance into the building. This enclosure, in turn, seemed to be linked to a series of walls that formed a fragmentary field system.

Aerial photogrammetry of Tongue House B using a drone

A stone-walled rectangular building, of similar dimensions, was also present at Tongue House B; however, in contrast, this appeared to comprise a single room, as no surface remains existed that might relate to an internal dividing wall. A centrally positioned entrance was, however, visible in the western wall, and the southern gable wall had a prominent kerbed foundation.

At Long House Close, the survey identified several structures. One of these was a stone-walled rectangular building, which again was of near-identical size to those at Tongue House A and B. This also had two cells, which were perhaps separated by a cross-passage. Intriguingly, one end of the building was set closely within a U-shaped wall, which seemed to define a ‘pound’ at the eastern end of the building. The terminals of this U-shaped structure also corresponded to the line of the cross-passage within the rectangular building.

Conducting a survey magnetometry at Long House Close

The 'pound' was, in turn, linked to a larger irregular-shaped stone-walled enclosure, which had been overlain by a boundary wall at a later date. This enclosure also seemed to link with two other stone-walled buildings, one of which also had a rectangular plan, measuring 9.1 x 6m. This was found just to the north-west of the rectangular building and, following its abandonment, a shepherd's bield had been erected over its remains. The other potential building had an irregular, almost pentagonal plan, with maximum dimensions of 8.6 x 7.3m, and might have been a store building or winter accommodation for a limited number of livestock.

Geophysical survey

Whilst the topographical surveys allowed the surface remains at the sites to be planned, geophysical survey was also used to detect any sub-surface remains, such as hearths, which might be important for understanding how the buildings had been used. Magnetic surveys were undertaken at all three sites, as was an electrical resistance survey at Long House Close. Readings were taken at 0.25m intervals, along traverses spaced 1m apart. The magnetic survey used a fluxgate gradiometer, which is particularly useful for detecting features, such as hearths, that have different magnetic properties from the natural geology, whilst the resistivity survey measured differences in electrical resistance (largely dependent on moisture content). This latter survey can therefore be used to detect features with low moisture content (high resistance), such as buried walls and floors, and those with high moisture content (low resistance), such as buried ditches.

The resistivity survey at Long House Close ran into problems, however, in that the thin soil cover and exposed surface geology meant that the results may not be valid. The magnetic survey was slightly more successful, though, in that several magnetic anomalies were detected, which were initially thought to represent buried hearths and pits. These included anomalies directly within the structures at Tongue House A and B, which could represent hearths, and anomalies outside the structures, possibly pits or areas of burning. Similarly, at Long House Close, anomalies were evident within the buildings, again possibly reflecting the presence of hearths, with other anomalies detected in their vicinities. However, it became evident during the subsequent excavations that many of these magnetic anomalies were actually caused by iron within the volcanic bedrock. Hence, the survey work implies that some caution is needed when interpreting the results from this type of survey, at least in this part of the Lake District.

Contour plan of Longhouse Close, generated from LiDAR data

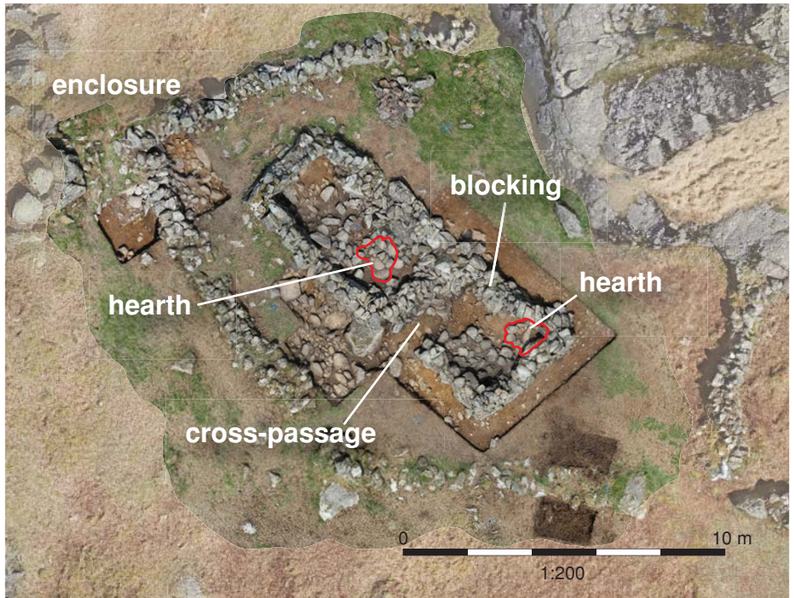
Conducting the resistivity survey on Long House Close

The Excavations

The excavations were completed over three seasons, between 2016 and 2018. The first site to be excavated, in 2016, was the rectangular building at Tongue House A, followed in 2017 by excavation at Long House Close, which targeted the rectangular building, and 'pound' that enclosed its eastern end. Numerous testpits were also excavated in 2016 and 2017, at both Tongue House A and Long House Close, across geophysical anomalies and other surface features, such as enclosure walls. In 2018, further excavation occurred of the Long House Close building and 'pound', and a trench was also opened over the building at Tongue House B.

Tongue House A

Excavation at Tongue House A largely confirmed the results of the surface survey, indicating that the earliest archaeological remains comprised the rectangular building, that did indeed comprise two cells, separated by a cross-passage, the larger cell measuring *c* 4.5 x 4m, whilst the smaller was *c* 2.5 x 4m. The excavation also confirmed that the northern end of the cross-passage had subsequently been blocked. Some important additional evidence concerning the construction, form, and date of this building was revealed. For instance, it was apparent that the walls of the building, constructed using a drystone technique, generally had no foundations, the site having first been stripped of turf, levelled in places, and the walls then built directly onto the natural geology. The excavation also indicated that the structure had been built above a silted-up watercourse. It was also evident that the interior of the larger cell, and also the cross-passage, contained two successive cobble floors,



Photogrammetric model of Tongue House A during excavation

a fragment of alder/hazel charcoal from the lower floor in the larger cell being radiocarbon dated to cal AD 1510-1800, though there is a 91.4% chance that the date range falls in the period 1510-1670. This, therefore, suggests that the building was probably constructed in this period.

Excavation in progress at Tongue House A

A hearth was revealed at the south-eastern end of the larger cell, close to the cross-passage. This was associated with the later floor and was defined by a large flat stone slab, the lack of charcoal probably indicating that peat was used as fuel. A probable hearth was also discovered in the smaller cell, defined by a semi-circular arrangement of stones, along with a small rectangular stone structure that probably functioned as a store for peat. The presence of hearths within both of the cells indicates that both rooms were associated with domestic activities.

Parts of the enclosure wall surrounding the building were also excavated. Although no dating evidence was recovered, this had been built in an identical fashion to the building, which may suggest that the two were contemporary. Two drains were also discovered within this enclosure, immediately adjacent to the building. One of these emptied into a soakaway, which contained fragments of charcoal. These produced two very different radiocarbon dates, although both were clearly earlier than the building. It seems likely, therefore, that this charcoal had gradually accumulated within the former watercourse beneath the building and enclosure. This process seems to have extended across the Roman and early medieval periods, as one fragment provided a date of cal AD 60-230, whilst another produced a date of cal AD 670-880.

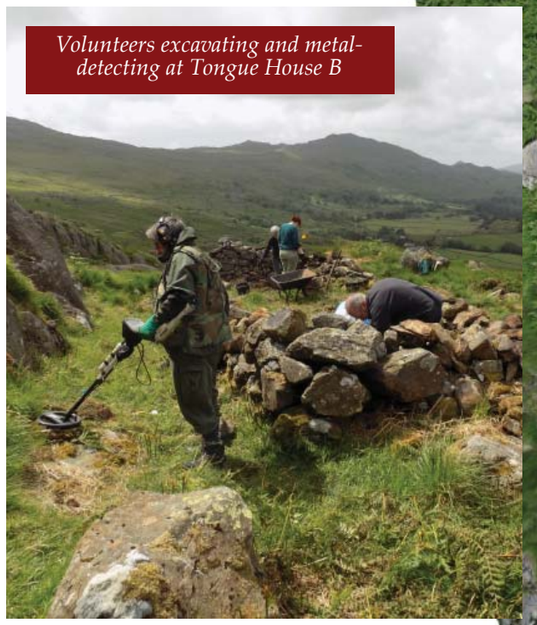
Tongue House B

Again, excavation at this site largely confirmed the results of the topographical survey, indicating that the principal remains comprised a single-roomed rectangular building, 11.6m long by *c* 4m wide. As at Tongue House A, it appears that, immediately prior to the construction of the building, the site was stripped of turf and levelled in places. After this, the drystone walls were built directly onto the exposed ground surface. Importantly, one of the levelling layers contained a fragment of charcoal, which produced a radiocarbon date of cal AD 1470-1640, suggesting that the building had been constructed in this period.

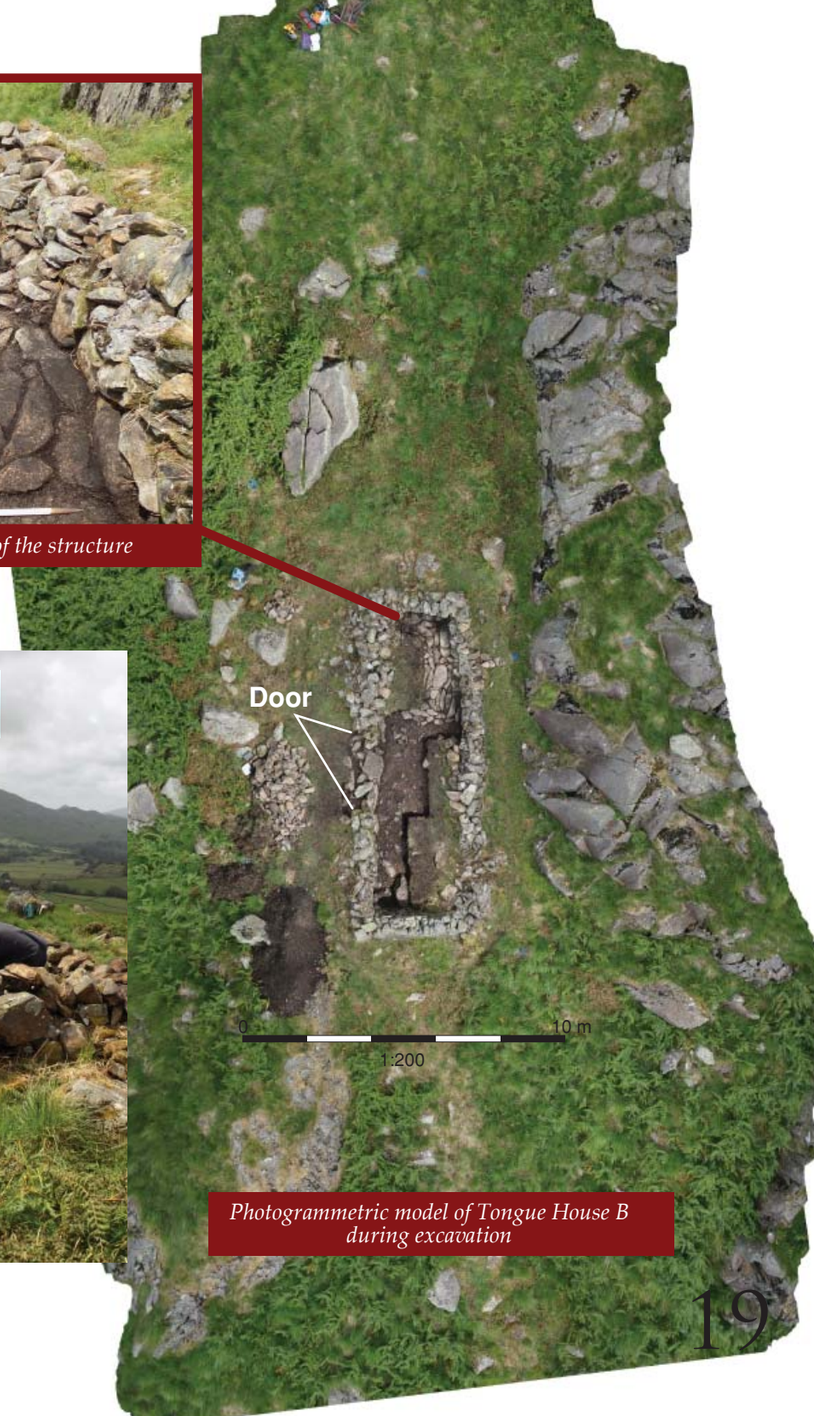
Other evidence uncovered during the excavation related to the form and construction of the building. From this it was apparent that its entrance was through its western side wall, marked by two square jambs, spaced 2.5m apart. At a later date, however, this entrance had been partially blocked, to create a narrower doorway, 1m wide, marked by a threshold stone. It was also evident that some parts of the walls had been rebuilt, following collapse, perhaps suggesting that the building was in use for an extended length of time.

Volunteers excavating Tongue House B

The flag floor in the northern end of the structure



Volunteers excavating and metal-detecting at Tongue House B



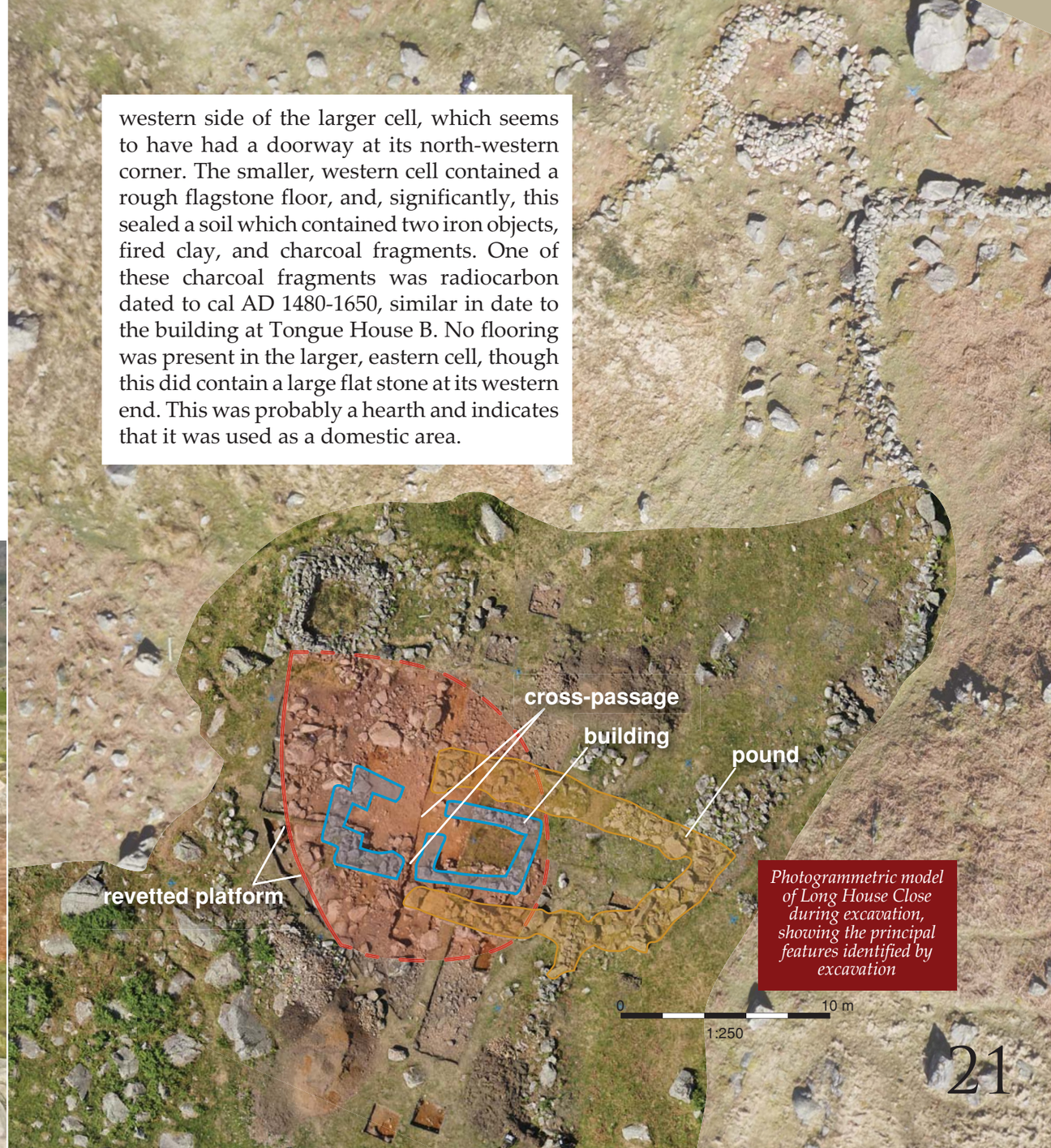
Photogrammetric model of Tongue House B during excavation

Long House Close

At Long House Close, the excavations produced the project's most complex, and surprising, evidence. The main surprise was that this site was first occupied way back in the prehistoric period, with the earliest remains being radiocarbon dated to *c* 1400-1200 cal BC, in the Middle Bronze Age. It was apparent that a terraced platform had been created at that time, measuring some 11 x 13m, revetted with a stone kerb. The platform was composed of a series of stone surfaces and soil layers, which contained a few fragments of Bronze Age pottery and a flint flake, and were associated with several other features. These included an enigmatic L-shaped arrangement of stones and an upright stone setting, two possible hearths, a pit, and a stakehole.

The excavations indicated that the drystone-walled rectangular building was built directly onto this earlier platform, clearly taking advantage of the levelled area. The building proved to be 9.4 x 4.5m, and contained two cells, separated by a cross-passage, with the larger cell lying in the eastern part of the building. The cross-passage was partially defined by a length of walling, which also partly defined the western side of the larger cell, which seems to have had a doorway at its north-western corner. The smaller, western cell contained a rough flagstone floor, and, significantly, this sealed a soil which contained two iron objects, fired clay, and charcoal fragments. One of these charcoal fragments was radiocarbon dated to cal AD 1480-1650, similar in date to the building at Tongue House B. No flooring was present in the larger, eastern cell, though this did contain a large flat stone at its western end. This was probably a hearth and indicates that it was used as a domestic area.

Photographing the south wall of the pound (left) and building, whilst volunteers work on the edge of the platform

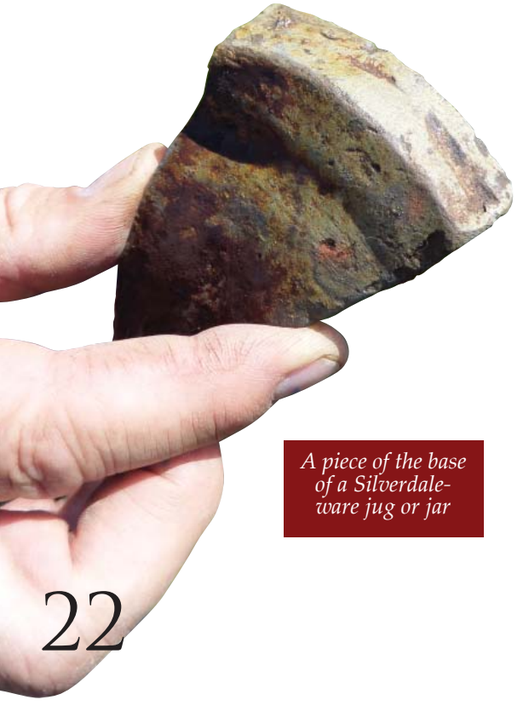


Photogrammetric model of Long House Close during excavation, showing the principal features identified by excavation

A few fragments of pottery were found that seemed to be contemporary with the building, including two sherds dating to the fifteenth-seventeenth century. These comprise a base and part of a rim, both possibly from a jug, and are of a type known as Silverdale ware, after the village in north Lancashire where pottery kilns producing this style of pottery have been recorded.

Fragment of Silverdale-ware rim

A pit just outside the building, close to its north-western corner, contained charcoal that when radiocarbon dated provided a very tight date range of cal AD 1410-1460. No clear link existed between this pit and the building, though, so it cannot be certain if this material relates to the first use of the building, or immediately preceded its construction.



A piece of the base of a Silverdale-ware jug or jar

The U-shaped enclosure surrounding the building was also partly examined during the excavation. This is a curious feature, particularly as it is immediately adjacent to the side walls of the building, leaving almost no space between. Given this, if the building and enclosure were contemporary, access to the enclosed area (the 'pound') to the rear of the building would have been impossible from the west, meaning that it was effectively defunct. This therefore seems to suggest that the building and enclosure were not in existence at the same time. In fact, the excavation suggested that the situation was very complicated, as the northern, southern, and eastern walls of the enclosure appeared to have been built at different times. Perhaps, then, only one, or indeed none, were contemporary with the building.

Pollen coring: the former environment

In addition to the excavations, several cores were extracted from two sites close to Tongue House A and B. These cores were taken through peat deposits, which accumulate over time, hence the most recent peat is found closer to the surface, with older peat beneath. Pollen derived from plants growing nearby and across a wider catchment area becomes incorporated into the peat, and analysis of this, together with radiocarbon dating of the peat, allows insights into the former environment.

Extracting a core sample (©Stephe Cove)

The analysis indicated that rich pollen assemblages were present at the coring site close to Tongue House B. That from deep in the peat indicated a mixed woodland environment in the valley, which eventually, with clearance, changed to an open environment dominated by grasses, mosses, and bracken. Although these events were not dated, comparison with pollen data derived from the nearby Bronze Age rings cairns at Lead Pike suggested this sequence related to the progressive clearance of the woodland cover by prehistoric people, after the introduction of farming to the area (from *c* 4000 cal BC onwards). The pollen from the upper peat deposits at the Tongue House B site, together with radiocarbon dating, also suggested that at around cal AD 1410-1640, contemporary with the construction of the building at Tongue House B, peat was being cut in this area, after which it gradually started to regenerate. One suggestion is that the peat was cut from around this settlement for use as fuel, which lends further support for its use and occupation in the late medieval/early post-medieval period.

The team carrying the heavy coring equiptment across the fell

Making Sense of the Data: A Story Unfolds?

Bronze Age Settlement

The archaeological data recovered by the excavations present an interesting insight into the early use of the upland areas to the east of the River Duddon. Rather unexpectedly, the earliest remains excavated by the project date to the Middle Bronze Age, at Long House Close. This activity probably relates to a particular type of prehistoric settlement that has been fairly widely recorded across the upland areas of northern Britain, including parts of the Lake District National Park, such as Heathwaite Fell to the east of the Duddon Valley. This type of site is known as an 'unenclosed platform settlement', which typically consists of a terraced platform, sometimes revetted, created by quarrying into a slope to create a scarp edge, and then dumping the spoil in front of the scarp to build a circular or semi-circular apron, which functioned as the platform. This then acted as a base for one or more roundhouses, which are often defined by posts or ring-groove construction trenches. Although no definitive evidence for a timber house was discovered at Long House Close, the presence of hearths, a pit and a stakehole, and stone settings, seems to imply that one or more domestic structures were present, though the remains of these have been largely obliterated by later activity.

Based on the current dating evidence, these settlement types were in use throughout the whole of the Bronze Age, developing at the end of the third millennium cal BC and continuing up until the early eighth century cal BC. Given this, the Middle Bronze Age example at Long House Close conforms well to the known chronology of this settlement type. At a local level, this settlement adds to the other Bronze Age settlements in the upper reaches of the Duddon, particularly that at Stephenson Ground, which comprised a timber roundhouse associated with a cairnfield. The dates from the Long House Close settlement seem broadly contemporary with the ring cairns excavated at Lead Pike, which have been radiocarbon dated to *c* 1540-1250 cal BC. Taking all of this evidence together, it seems that this upland area was important during the Middle Bronze Age, with settlements and associated activities.

Remains of the stone revetment creating the edge of the platform

Excavating through the floor of the later building to examine the prehistoric deposits underneath

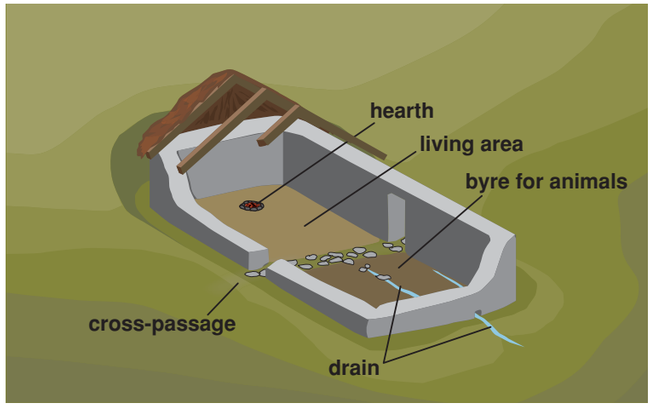
Early Iron Age Activity?

Curiously, a radiocarbon date of the Early Iron Age was also produced. The very limited evidence, however, means that the nature of any occupation is unclear. It is possible that upland settlement was abandoned in the Late Bronze Age, perhaps as a result of climatic deterioration around 850-650 cal BC, after which clearance and agriculture may have recommenced in the valley during the Iron Age. For instance, pollen data from the Lyth Valley and Duddon Mosses indicate clearance episodes between *c* 700 cal BC and *c* cal AD 270. The admittedly limited evidence from Long House Close may, therefore, relate to reoccupation of the uplands during the Iron Age, which was perhaps related to a renewed phase of clearance and farming.

Roman and Early Medieval Clearance?
Fragments of charcoal were also recovered from a former watercourse at Tongue House A, which were radiocarbon dated to the Roman and early medieval periods. This material, although again very limited, is the result of burning, perhaps associated with clearance. This is not entirely surprising, as episodes of clearance have been detected in pollen records from Cumbria dating to these periods, and the place-name *-thwaite* probably also denotes areas of clearance. The dated charcoal does, at least, provide some additional evidence for clearance in this part of the Duddon Valley on at least two separate occasions during the first millennium AD, which may also have been associated with settlement in the vicinity of Tongue House A.

Late Medieval/Early Post-medieval Settlement
At the start of the project, it was anticipated that these three rectangular stone-footed buildings might represent medieval longhouses, some perhaps dating to the early medieval period. The radiocarbon dates obtained from the sites, however, suggest that, in fact, all of the excavated buildings date to the same broad period, and were established at the end of the medieval period or, more likely, in the early post-medieval period.

The excavations also put into question the assumption that the buildings represent longhouses *per se*. This was a specific type of rural building that probably emerged in the late twelfth or thirteenth century, and was markedly different from early medieval rural dwellings. In the strictest sense, a longhouse consists of two bays separated by a cross-passage, with one of the bays forming a domestic area, containing a hearth, and the other a byre, for housing livestock, with a central or lateral drain.



Cut-away schematic illustration of a traditional longhouse layout

With this in mind, the single-roomed building at Tongue House B certainly does not conform to the formal definition of a longhouse. Its doorway might, however, offer some clues to its function. Originally, this entranceway on its long western wall was comparatively wide, at 2.5m across. Could this therefore suggest that the building was originally designed as a byre for livestock? However, at a later date the entrance was narrowed, suggesting that it was perhaps converted into a domestic dwelling.

The cross-passage at Tongue House A

Similarly, the cross-passage buildings at Tongue House A and Long House Close do not seem to be classical longhouses. For instance, there was no clear evidence that any of the cells, on either side of the cross-passages, formed byres. Indeed, within the Tongue House A building, hearths were present in both of the cells, suggesting that both were domestic. Other possible parallels do, however, exist. For instance, in northern England, a tradition of small cross-passage houses is known, with domestic rooms (*ie* living rooms/kitchen, parlours and/or unheated service room) positioned on either side of the cross-passage. This building

The stone floor and wide entrance of Tongue House B

tradition seems to have been in use by at least the mid-seventeenth century, though such houses were normally of three units. Perhaps, therefore, the cross-passage buildings at Tongue House A and Long House Close represent an early manifestation of this type of small domestic building. Indeed, comparable small, two-cell, cross-passage houses, dating to the late sixteenth to early eighteenth centuries, have been recorded in Snowdonia, which have strong similarities to the excavated buildings. This may suggest that such buildings, including those from Tongue House A and Long House Close, were a particular type of late medieval/early post-medieval dwelling that was directly associated with the exploitation of more 'marginal' farming landscapes.

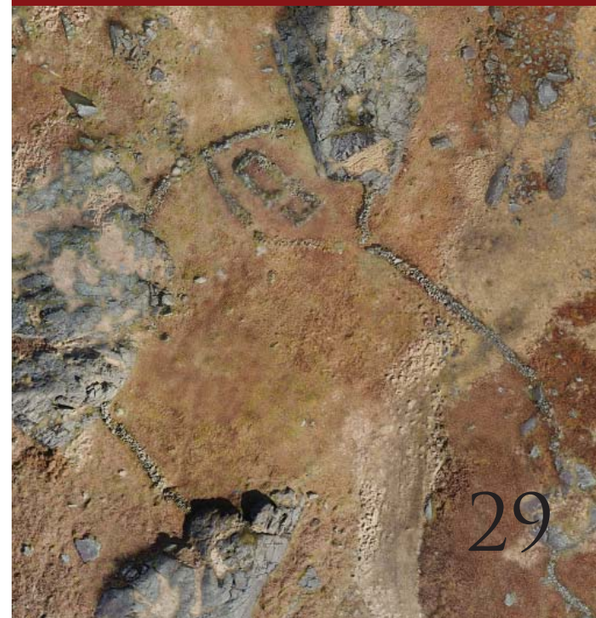
Whilst it can probably be assumed that Tongue House A and Long House Close had a purely domestic function, as did the later manifestation of the building at Tongue House B, it is unclear whether they were permanently occupied farmsteads, or shielings associated with temporary occupation during the summer months by transhumant herdsmen and their families. This problem of definition is not unique to the Duddon Valley, as it has become increasingly clear that, across upland areas, shielings and small farmsteads were architecturally comparable, possessing the same structural characteristics and being built in the same way, often using the same materials. For example, there are examples of both square and rectangular shielings and small farmsteads, which might possess one or two cells. Both shielings and farmsteads could also be built using drystone walling, as is the case in the excavated examples, or even turf. There are also examples of shielings which, like their more permanently occupied counterparts, had cross-passages.

Recording the drystone walling of Tongue House B

Given their structural similarities, it has been argued that other traits need to be considered to determine the presence of a farmstead or shieling. For instance, it has been noted that permanent farmsteads often stand alone, whilst shielings are found in groups. It also appears that shielings tend to be sited along routes (such as streams) into the uplands. Permanent farmsteads are also normally associated with livestock enclosures, or stack stands, and/or evidence of cultivation. Based on these 'defining' traits, it seems possible, therefore, that the three excavated buildings might represent permanent farmsteads, on the basis of the associated enclosures and field systems, recorded by the topographical survey, although it must be noted that Tongue House B was not directly associated with an enclosure.

If this was the case, the other buildings at Long House Close might have housed livestock, or been used to store winter fodder. However, this said, it is equally possible that none of the enclosures, field systems and associated features were actually in existence when the excavated buildings were in use, and hence whether they represent farmsteads or shielings cannot be demonstrated definitively. Of course, a further possibility is that the function of these durable buildings shifted over time. Therefore, it is possible that some were originally constructed as a permanent farm, but, following its abandonment, were later used as shielings.

The remains of enclosure walls associated with Long House Close (above), and Tongue House A (below)



Training, Education, and Communication

Whilst the DuddonDig project produced valuable archaeological data, it was foremost a highly successful outreach project. The project has provided archaeological training for its participants, and importantly, through its outreach programme, allowed the local community, as well as people from further afield, to engage directly with the rich history of the area.

Training Volunteers

At the beginning of each season, a training day was held at the Seathwaite Parish Rooms, with specialists from OA North leading activities for groups of volunteers. Those attending had a wide range of skills and experience. For instance, some of the volunteers had been involved in the earlier projects run by the DVLHG, or had worked on other local archaeological projects, such as *Romans in Ravenglass*. Others, however, had no experience at all, but were certainly eager to learn. The training days were therefore designed in such a way that all attending could be catered for. Priority was given to new volunteers, but the training days also allowed the more experienced to brush up on their skills before going onto site. Indeed, the overall feedback was very positive, and all felt that it boosted their confidence in taking part in the archaeological fieldwork.

Volunteers undertaking training in palaeoenvironmental analysis (left), and photogrammetry (right)

Each of the training days comprised a presentation about the project and also four activities designed to highlight the types of archaeological techniques that were to be used. One activity related to photogrammetry, using a drone. However, rather than flying the drone over a landscape, it was decided that the principles could be adequately explained by taking aerial photographs, from various angles, of one of the volunteers, who obligingly lay on the floor. In fact, once the images were upload and processed by a computer, this small-scale survey proved a real success, as a three-dimensional model of the volunteer's body was produced that could be rotated and viewed at any angle, just like the topographical plans of the three sites.

A second activity also focused on survey techniques, though in this instance using a GPS. This session showed the volunteers how it can be used to survey the positions of excavated and upstanding remains accurately, and geo-reference these to Ordnance Survey maps.

A third activity was designed to unravel the mysteries of pollen studies, and how these can be used to determine the vegetation cover that existed in earlier times. The session, therefore, explained how pollen samples can be collected from peat deposits, by coring, the importance and application of radiocarbon dating, and how the pollen is identified from the samples. Indeed, the latter presented the volunteers with some hands-on experience, as they got a chance to use a microscope to look at some of the different types of pollen that are often preserved in peat deposits in the area.

The final activity allowed everyone to handle a good selection of artefacts, dating to various periods. In addition, a sample of medieval finds and some modern reproduction pottery could be examined, which could be matched against the finds recovered from the excavations.

Training volunteers to set up a base station for GPS survey (©Ian Boyle)

Schools' Programme

Another important element of the project was an education programme, which followed a similar pattern each year. Children in Years 5 and 6, from six local primary schools, had a full day of activities in school and a half day on site, depending on the class size. In school, children had two presentations and took part in various activities. At the start of the day, the first presentation comprised a general introduction to archaeology, whilst the other, in the afternoon, focused on the excavation sites.

Inbetween the presentations, the children rotated through the activities, in groups. Excavation was a favourite, with modern objects being buried in sand trays and slowly exposed using credit-card trowels, each stage being recorded by a sequence of drawings. A 4m-long banner was also used to represent an excavation trench, which the children drew using planning frames; the quality of some of the drawings was amazing!

Children learning archaeological planning techniques

Another activity involved reconstructing an increasingly complex set of broken pottery. The language and ingenuity used in this activity was really interesting, especially when it came to rebuilding the more difficult items. A final activity gave the children a chance to handle a selection of finds, with objects dating from the Victorian era right back to the Neolithic period. During this activity, it became clear that the children really enjoyed placing their fingers into the marks left by medieval potters, and also holding Bronze Age barbed-and-tanged flint arrowheads.

After the indoor activities, the children then had a chance to visit the site and take part in some fieldwork. For the 1km walk up to the sites, a 'timeline' was followed, whereby each metre of the walk was equivalent to moving back one year. Boards every 50 years highlighted events of that time, both local and national.

Learning all about archaeological finds

School children starting off on the timeline on the track up the fellside (©Ian Boyle)

Once at the site, the children took part in activities that were similar to those in the classroom. They therefore used planning frames to record sections of the excavated walls and drew pictures of the site, the hills, and also the volunteers digging away. Each group was given a guided tour and they were shown the finds. Testpits had been deturfed, so the children could have a go at digging, with a real trowel this time! Fortunately, most of the school visits benefited from good weather and only two out of the 16 had damp, miserable children walking back down the track to the bus.

Four other educational events were arranged during the project. One of these enabled all of the primary school children (Reception to Year 6), from a village school on the other side of the fell, to undertake the school-based activities, though they were unable to come to one of the excavation sites. In another event, a local secondary school allowed members of their Archaeology Club to skip lessons for a day. This meant they could have a shortened version of the school-based activities, followed by a half day at one of the excavations. A third event involved a group of eight A-level Archaeology students from a college in Huddersfield, who came for a day's digging with two of their tutors. In fact, this was a follow-up from the previous year, when one of the tutors came to see what we were doing, on his way down from a day walking on Dow Crag. During one frantic day, one of the primary schools produced a 1m-square model of the Tongue House A site with its building and enclosure walls. The schools' programme was a resounding success, and during the course of the project 385 children completed the school-based activities, whilst 368 children went on the half-day visits to the site. In addition, the project involved nearly 70 teachers, classroom assistants, and parents. Particular thanks must also go to Mur Cove who reconstructed the broken pottery over 60 times!

Visitors

Each year the project entertained a variety of visitors at the excavation sites, and one of the Day Leader's roles was to take charge of greeting visitors and showing them around the site. Some of these were inquisitive local cattle and sheep, who came for a wander around but, thankfully, caused less disruption than anticipated, whilst others were local people who had heard about the dig in the local media, or who had seen our posters in the valley. The excavations were also visited by numerous hikers and ramblers, from across the UK and also abroad. Most had no idea that the project was taking place, and many chanced upon the excavations whilst walking along a major footpath nearby, leading from the valley up the track to Seathwaite Tarn, and beyond to Dow Crag and Coniston Old Man. Many were also drawn to the site by our 'timeline' boards, so these proved to be an extremely successful element of the outreach programme!

Several archaeologists also visited the sites, and they made some interesting contributions to the debate about the character of the excavated structures, comparing these to others they were familiar with in Yorkshire and Orkney. The Cumbria Vernacular History Society visited the valley, with some of this group looking at the lowland buildings, while the more energetic members came up the hill to see the excavated structures. Another group consisted of party leaders responsible for the National Park guided walks. Their brief was to look for ideas and information about the archaeological remains in the area and weave these into a wider narrative that could be used to explain the development and use of the landscape, when leading visitors across the fells.

Explaining the site to passing visitors (©Stephe Cove)

Open Days

Each year, a formal Open Day was organised, at the Parish Rooms at Seathwaite, which acted as the project's base, where there were refreshments and a presentation about the project. This gave the visitors an idea of the project's background, what was being excavated, and the progress made. After this, they were led up to the site

Explaining the Tongue House A site to visitors on an Open Day (©Ian Boyle)

following the 'timeline', where they were shown around, and were also given the opportunity to question the archaeological staff and talk to the volunteers.

These Open Days attracted a wide range of people, and proved another successful element of the project. They were attended by people of all ages, with some coming in family groups, whilst others came on their own. Some of the visitors also had background knowledge and an interest in archaeology, whilst others were just intrigued about what was going on.

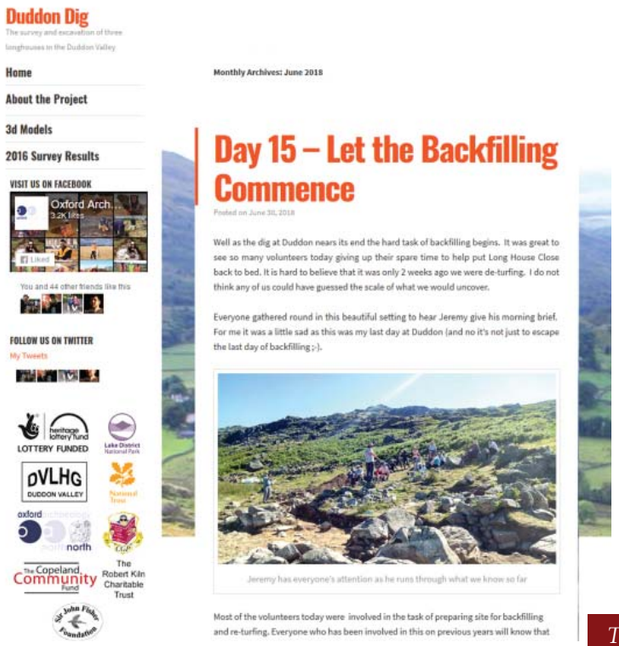
Talks

During the project, DVLHG members delivered talks outlining its purpose and progress. Each year, presentations were given to the National Park's Archaeological Conference, and a session was also delivered to the Annual Archaeological Forum at Lancaster University. Talks have been given all over Cumbria showcasing the DuddonDig, with some of the more distant bookings coming from those attending the other conference events. Over the course of the project, the DVLHG has therefore spoken to many interested groups, including other local history groups, a literary society, and also open talks in libraries.

On-line Communication

Creating a good on-line platform to share the results of the project has formed another important element for the outreach programme. However, at the start of the project, it became clear that the DVLHG website would need updating and improving. With this in mind, a web designer was employed to create a new and improved site (www.duddonhistory.org.uk) that provides another avenue for those involved in the excavations, and also the wider public, to engage with the results of the project. Importantly, the website also allows access to reports detailing the earlier work of the DVLHG, which are not easily accessible, and so this work can now be freely accessed by a large audience.

The DuddonDig blog was created in addition to the website, which was hosted by OA North. Each day, the Day Leader provided a report and photographs of the activities that had been undertaken, after which the professional archaeologists uploaded additional technical information and pictures. Indeed, it seems that the blog was an excellent way of getting the results of the excavations out into the public domain, as it had an average of 2000 views during June in 2016-18 during the excavation, and nearly 10,000 all-time views from over 4000 unique visitors over the three years of the project. As would be expected, visitors were largely from the UK, but there were also many from Europe, the USA, and a smattering from countries spread all over the globe.



The popular Duddon Dig blog

'The diary of a digger'

The glorious Seathwaite Valley had been invaded by an army of volunteer diggers to excavate three buildings, but what were they for? Time would tell. Each day around 12 of us assembled on site for a briefing on the day's aims, and then we all set to work, either deturfing, trowelling, or cleaning back surfaces. At intervals, the archaeologists recorded, measured, photographed and took many samples.

At Tongue House A and B, bracken rhizomes were the talk of the day, and how best to remove them. This was specialist excavation and we almost became experts. Long House Close was very different. We diggers were able to do the job we came for: to dig for datable information. We removed turf, cleared soil and stones, and the spoil heaps grew each day. Several visitors came to view, along with a few uninvited guests like cows, sheep, and an indignant meadow pipit, trying to feed her young in a hole in one of the walls.

The weather was kind and it was good to chat to old friends and make new acquaintances as we worked. In spite of aching backs and knees, everyone had a lot of fun seeing the site taking shape and exposing its hidden secrets. Artefacts kept appearing and one piece of pottery was particularly important, as it could be dated. Our building looked more promising by the end of the day. The finds were bagged up and their locations recorded with little labelled tags, which gradually covered the site. Occasionally the trench was cleared of all the tools and diggers so a drone could be flown over the site, a much improved method of recording compared to the camera-on-a-pole technique!

All too soon it was backfilling time, and on a very hot day we shovelled and bucketed the spoil heaps back into the trenches, becoming ever slower, finishing off with some very dried up turves. This beautiful valley was returning to its tranquil setting, with three structures standing proud after their thorough make-over. It had been an enthralling three years and we looked forward to hearing about the results of our labours.

Volunteers excavating (left) and recording (right) at Long House Close

Implications and Legacy

With the tents taken down, the trowels and equipment put away, and the soil, stones, and turf replaced, what have we learnt, and what do we now know about the enigmatic structures uncovered during the excavations? Well, hopefully, this publication has gone some way to explaining what was found. It will have also raised many questions that we do not presently have the answers to, which is why archaeology is so exciting, intriguing, and frustrating in equal measures! It is also worth noting that the DuddonDig is a prime example of how a small body of dedicated volunteers, working closely with professional archaeologists, can play a valuable role in helping the Lake District National Park Partnership sustain its World Heritage Status, by adding to an understanding of early settlement in the upland fells.

However, apart from the archaeology, the project has also offered so much more: the camaraderie, enjoyment, and fun that has been shown throughout is equally as important. This is perhaps summed up by one of the volunteers who commented,

> *The environment of the archaeological dig was very welcoming and friendly. It was a very positive experience going down for a day and seeing if I could dig up any hidden treasure. Even though on the day we didn't find anything, it was still fun.*

Volunteers enjoying their work (©Ian Boyle)

Many of volunteers also found the project worthwhile in other ways, as it provided an excellent opportunity to engage directly with their past and work on an archaeological excavation. For example, one of the A-Level Archaeology students from Greenfield College, in Huddersfield, pointed out that,

A-level Archaeology students from Greenfield College, Huddersfield

> *The dig was not only a precious and invaluable insight into the practice that is archaeology, but a wonderful hands-on experience. Knowledge, that would otherwise have been learnt from textbooks, was thrillingly physical and real.*

It seems, therefore, that having the opportunity to experience an excavation and take part in investigating the past is clearly a positive experience, and one that everyone enjoyed. Hopefully, these experiences will encourage the volunteers to continue investigating how people lived in the past in this part of the Lake District. In fact, this certainly seems to be the case, as, on the back of the project, there has been a surge in the numbers joining the DVLHG, with membership increasing from 65, at the beginning of the project, to 92 at its close, with members also coming from a much wider catchment area. Importantly, this healthy increase comes at a time when local amenity groups are finding it difficult to recruit new members, and points to a very strong and bright future for the group. We therefore wonder, what will be next?

Glossary

Assarting: act of clearing forested lands, normally for use in agriculture.

Byre: a building, or part of a building, in which livestock are kept.

cal BC/cal AD: radiocarbon dates that have been calibrated using tree-ring data.

Fluxgate gradiometer: a geophysical instrument used to map below-ground magnetic anomalies.

Longhouse: a medieval or post-medieval rectangular rural dwelling, generally consisting of two rooms separated by a cross-passage. One room formed a domestic living space, while the other functioned as a **byre**.

Peat: partly decomposed organic material formed in areas of permanent waterlogging.

Radiocarbon dating: a method of dating ancient organic material. It involves the measurement of the amounts of radiocarbon (which is subject to decay) remaining in organic matter.

Roundhouse: usually prehistoric circular building, normally constructed in timber, though in the uplands, sometimes in stone.

Shieling: a structure in the uplands used temporarily by shepherds and herders, practising **transhumance**.

Transhumance: the practice of some pastoralists of moving with their livestock into the fells during summer to take advantage of good grazing.

Unenclosed platform settlement: a specific type of Bronze Age settlement, found in the uplands of northern Britain, whereby a platform was terraced into a slope, which acted as the base for a roundhouse.

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Acknowledgements

The success of the DuddonDig was due to the enthusiasm and efforts of all those who participated, and a special debt of gratitude must be made to the 114 volunteers who braved the extremes of weather and between whom lasting friendships have developed. On behalf of the participants, we would like to express thanks to the Project Steering Group, whose work began long before the first trowel was lifted, and under whose watchful eye the project was guided to its successful and satisfying conclusion. In this respect, we are particularly grateful for the help, advice and continuous support of Jamie Lund, National Trust Landscape Archaeologist, and Eleanor Kingston, LDNPA Lead Strategy Advisor, Historic Environment, who cheerfully answered the myriad of queries that arose.

Some of the Duddon Dig steering group (left to right); Eleanor Kingston, Sue Lydon, Stephe Cove, Peter Matthiessen, Bob Bell, Ken Day, and Jamie Quartermaine. Other members are Jamie Lund and Mervyn Cooper

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