

**On the Border of the Celtic and Roman Worlds:
A Regional GIS Analysis of Votadini Hillforts in Northumberland,
United Kingdom.**

By

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Abstract

This project seeks to analyze regional Votadini hillfort re-settlement in the Roman Iron Age/Romano-British Period in Northumberland, UK, north of Hadrian's Wall. Archaeologists have applied a "long Iron Age" model to the tribes of this region, often downplaying both social change within the tribe and Roman impact without. Combining prior recorded field work with my own LiDAR, spatial, and movement analyses in ArcGIS, I examine regional Votadini settlement patterns from the Iron Age through the Roman Iron Age, noting significant cultural changes. Any evident shifts in hillfort settlement patterns can reflect a changing socio-political landscape as the Votadini became a border territory to the Celtic-speaking and Roman worlds. In the Roman Iron Age emerges: amalgamated village-like communities, disrepair of defensive structures, abandonment of population centers, differing familial units, differing landscape movement, and rectilinear barriers and walls delineating public from private space. Through evidenced Roman Iron Age hillfort settlement changes I argue for the generational impact on native lifeways from Roman occupation and proximity.

1: Introduction

Northumberland County is home to the densest population of hillforts in the United Kingdom, with 271 known. The hillforts of this territory once served as defensible settlements for members of the Celtic-speaking Votadini/Otadini tribe (Oswald et al. 2006, 103). Generally constructed in the Iron Age between 800 and approximately 100 AD; these hillforts were largely abandoned in the late Iron Age (~200 to 50 BCE (Cunliffe 2005, 217)). While this tribe remained primarily outside of the Roman Empire, for approximately two discontinuous generations, they found themselves under the "Pax Romana," or the "Roman Peace" (~78-100 AD and 142-165 AD (Harding 2017; Armit 1997, 103)). For the remainder of the Empire's span, the Votadini lived as a border tribe with the Romans to the south and neighboring Celtic-speaking tribes to the north and east. Sometime in the subsequent Roman Iron Age/ Romano-British Period (43 to 410 AD), the Votadini carried out a mass re-settlement of their ancestral forts (Oswald et al. 2006 103, 107) while adopting stone-foundation structures, rectilinear building habits, barriers internal to hillforts, and denser overall community populations whilst abandoning their population centers. Archaeological evidence leads us to be uncertain if these changes happened

4 Votadini Hillforts of Northumberland

under Roman rule, as a response to Rome's withdrawal, or as independent developments in material culture (Oswald et al. 2006, 107-109). Roman impact on the Votadini has long-been downplayed by archaeologists, and yet this era sees considerable changes to native lifeways (Harding 2017, 17). The late Iron Age through the Roman Iron Age seems to be a time of socio-political transition, reflected in settlement patterns and material culture changes.

The North of England and southern Scotland are critically understudied regions (Harding 2017, 17; Frodsham et al. 2006, 250). When studying the Iron Age, archaeologists have traditionally focused on the massive complex hillforts in southern England and Wales, or on the brochs and wheel houses of Scotland (Oswald et al. 2006, 18-21). Once the Romans arrived in Britain, the resulting villas, forts, and Roman goods stole the archaeological limelight (Oswald et al. 2006, 20). The tribes of the British borderlands are left overall understudied, oversimplified, and often mischaracterized in the archaeological record (Oswald et al. 2006, 106; Harding 2017, 17; Armit 1997, 13-16). Within the last two decades, more attention has been given to this border region with its small communities and plentiful hillforts. This project seeks to add to this more recent conversation through a regional analysis of Roman Iron Age re-settlement patterns and use of space for Northumberland's Votadini. As discussed by Frodsham et al., "as long as accounts of later prehistoric societies persist in ignoring northern England and southern Scotland... they will fail to provide a meaningful overview of British prehistory" (2006, 250). It is important to neither forget this tribe, nor relegate them to generalizations and stereotypes. Leaving the border tribes out of the prehistoric conversation is to overlook a people who have thoroughly shaped the landscape of Britain.

2: Research Questions

Individual excavation and some regional analyses have been completed in this area, but thus far there has been little synthesizing regional work in this little understood landscape. Contrary to what has previously been asserted (Armit 1997, 105; Harding 2017, 227), the Votadini appear to have not gone uninfluenced by, or unresponsive to, their Roman neighbors (Haselgrove & Moore 2006, 11). By conducting forms of regional analysis, this project aims to assess Votadini lifeways prior to and after Roman occupation. What can regional hillfort settlement patterns from the Iron Age to the Roman Iron Age reveal about the socio-political landscape of Northumberland's Votadini? If changing regional settlement patterns do emerge, what does this say about the social structure and priorities of the Votadini of each era in question?

I will be looking at specific spatial and movement factors. First, we should ask which hillforts were occupied in the Iron Age only and which were resettled in the Roman Iron Age versus those that remained abandoned? Is there an apparent trend in which hillforts were chosen for resettlement based on proximity from hillfort to hillfort, or based on proximity to the Roman border? Is there any potential relationship between re-inhabitation and hillfort complexity, elevation, or size? Do we see a difference in the density of populations living in hillforts, and does this remain consistent across time? Does movement across the landscape change from one era to the next based on population density and location? In approaching all of these smaller questions, we can begin to tackle the main goal of better understanding the Votadinian hillfort settlement patterns north of Hadrian's Wall from the Iron Age to the Roman Iron Age and what this means for the lifeways of the tribe members.



Figure 3.1.1: A Map of the Celtic-speaking tribes of the British and Scottish borderlands as described by Ptolemy.

3: Historical Background and Terminology

3.1: Terminology

The general British Iron Age (hereafter IA) lasted from around 800 BCE to 43 AD, ending with the arrival of the Romans. The Roman-British period refers to 43-410 AD for Britain south of Hadrian's Wall, and the Roman Iron Age refers to the same period north of Hadrian's Wall. The term Roman Iron Age (hereafter

RIA) refers to the period contemporaneous with Roman-Britain, but refers to the Celtic-speaking tribes outside of Roman control (43-410 AD (Oswald et al. 2006, 107)). The "Long Iron Age model" model assumes a continuity of Iron Age culture until the Medieval era (Hunter 2014, 180). For the borderlands, this period encompasses the time they were under Roman control, as well as post-independence. As the presence of the Roman Empire was certainly impactful to everyday life, it has been determined to be disingenuous to consider those north of Hadrian's Wall as being in the "Iron Age." (Oswald et al. 2006, 103-106).

"Celts," Celtic," and "Celticism" are contentious terms. Gaulish Celtic culture, art, and language entered Britain during the mid to late IA (Armit 1997, 77). Likely, the cultural influx

was not due to some large invading force, but rather through small-scale settlement, trading, and influence coming from the continent (Armit 1997, 77). These IA people probably would not have thought of themselves as being “Celtic,” but rather would have identified more strongly at the tribal, community, and familial scales (Oswald et al. 2006, 4). I will largely be using Celtic-speaking to describe the British “Celts,” as the tribes and people in question spoke a Celtic language and practiced key Celtic cultural practices by the late IA, regardless of how genetically related they were or were not with continental Celts.

There is some discussion as to the term “tribe.” Ptolemy's description of Britain's Celtic “*ethne*” and Caesar's description of British “*civitates*” are generally translated and understood today as “tribes” (Cassidy 2025). By the Late Iron Age, however, some of these Celtic-speaking societies may have been closer to kingdoms or states with some evidence for election of magistrates and enforcement of laws (Collis 2006, 534). So much of the political structure is unclear to us, especially in northern England and Scotland's Iron Age. As such, until there is more clear evidence of the borderland's IA political structure, this paper will carry on the tradition of using the term, “tribe.”

Due to the heterogeneity of the landscape of the Iron Age British communities, assertions made about one tribe's cultural, religious, political, and material traditions are not necessarily directly applicable to all other tribes (Haselgrove & Moore 2006, 4). Iron Age archaeology in the UK has predominantly focused on the hillforts in southern England and Wales (Oswald et al. 2006, 20-22). Maiden Castle, Hambledon Hill, and Old Oswestry make up a few of many large, complex, and well studied hillforts in England. Based on this southern region, some archaeologists have deemed that nothing smaller than 1.2 hectares in size qualifies as a hillfort (Cunliffe 2005, 321). This is despite smaller “hillforts” adhering to every other archetype of

hillfort construction and use. Thankfully, this has been argued against in the last two decades, as all but a few of Northumberland's hillforts fall below this size criterion. Scholars focusing on tribes of northern England and southern Scotland recognize the range in hillfort morphology and complexity, as well as the heterogeneity in use and layout (Haselgrove & Moore 2006, 4; Oswald et al. 2006). Overall, the cultural and structural practices are consistent enough for these northern settlements in question to be considered "hillforts" alongside their larger counterparts (Harding 2017; Lock & Ralston 2024).

Culturally, the Votadini were more similar to their contemporary neighboring tribes in now modern Scotland than they were with those across what is now England (Frodsham et al. 2006, 257). Although they are documented to a higher degree, the hillforts of Southern England are notably larger, more complex, and more populated than the vast majority found in Northumberland (Cunliffe 2005). The dissimilarity in hillfort size and morphology across England likely signifies a difference in intentionality regarding construction and use (Cunliffe 2005; Oswald et al. 2006). The hillfort settlements of southern Scotland reflect those of Northumberland much more closely based on size, prevalence, and use (Frodsham et al. 2006, 257; Armit 1997). I will try to focus on the archaeology nearer to Northumberland as thoroughly as possible, rather than force overarching conclusions that are not applicable to northern tribes.

3.2: Terminology: Settlements, Structures, and Features

A hillfort is a defensible settlement, often found on a hilltop or promontory. These settlements are generally encompassed by one (univallate) or multiple (multivallate) ramparts. Ramparts are defensive structures made of quarried stone, wooden reinforcements, and earthen mounding, sometimes topped by a wooden palisade (a wall of stakes) or a stone wall (figure 3.2.1). A hillfort may have had a standalone rampart, or a complicated series of ramparts,

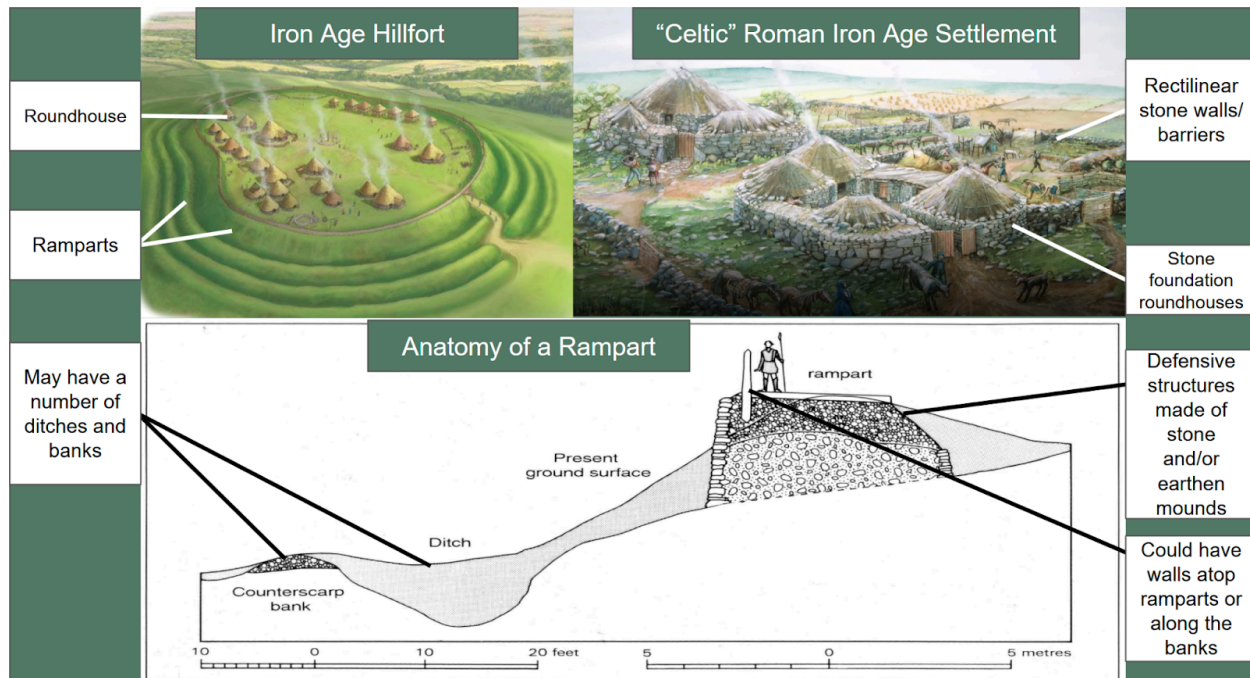


Figure 3.2.1: Illustrations of a typical rampart, Iron Age hillfort, and Roman Iron Age settlements. Credit: Heritage Images/ Hulton Fine Art Collection via Getty Images and Crown Copyright RCAHMW.

ditches, banks, and strategically placed gateways (figure 3.2.1). Within Votadini territory, these settlements can range from 0.2 to 16 hectares in size in the IA and the RIA.

The elevated sites of hillforts are generally believed to have been chosen for their defensible position and vast view of the landscape. Despite the general assumption, defense may not be the only explanation for the typical settlement location. Jones argues that “a site located on a hilltop... may simply be drier than surrounding areas and, therefore, more desirable for settlement” (2006, 525). In areas of heavy rainfall, which the UK is known for, hilltops provide natural drainage, leaving the surrounding valleys as viable farmland (Armit 1997). Further, some speculate the defensive structures, especially in northern England and southern Scotland, may have been primarily for symbolic purposes, marking one's territory and keeping livestock contained, rather than for battle (Armit 1997, 43; Frodsham et al. 2006, 257). Given the small size and abundance of hillforts within Votadini territory, it is doubtful the settlements served primarily military purposes.

Hillforts were populated by roundhouses, circular structures made using wattle and daub construction, topped with a thatched roof (Harding 2009, 59, 66). These structures may have been built on a flattened or scooped foundation, sometimes extended out as a flat rounded yard (Harding 2009, 76-78). At the end of the IA, roundhouses began to be built with stone foundations, although such structures are often characterized as RIA (Harding 2009, 76). While many roundhouses served as residences for nuclear or extended family units, some were in fact used as storehouses, craft and production spaces, and shelter for livestock (Oswald et al. 2006, 77-78). The domestic versus craft use of a roundhouse can be most reliably determined through excavation and resulting material analysis. Generally in the IA we find roundhouses between 6-20 meters in diameter, with the stone-foundation roundhouses of the RIA measuring 4-12 meters in diameter (Harding 2009, 78, 167-168, 209).

3.3: The Iron Age Votadini

The Votadini are believed to have followed a tribal structure (Armit 1997, 48). Their society for most of the IA would have been composed of small communities and powers, the names and boundaries of which have been lost (Nesbitt 2006, 226). These groups would have answered to an overarching political structure, particularly by the end of the IA (Armit 1997, 48). There are a few known population centers within Votadinian territory, containing over 100 roundhouses each. Most prominently these centers include Traprain Law in East Lothian County, Eildon Seat and Hownam Law in the Scottish Borders, and Yeavinger Bell in Northumberland County. Known population centers probably acted as seats of power within the tribe (Cunliffe 2005, 217). Traprain Law is said to have remained occupied through Roman invasion until the founding of Edinburgh, perhaps acting as the tribe's capital (Cunliffe 2005, 217). As Armit points out, some "individual or group must have marshalled the immense amount of labour needed to

build these enclosures,” suggesting a centralized authority residing over the larger settlements (1997, 48). Tribe members are speculated to have amassed at these sites during key political moments and as part of seasonal cultural festivities and economic exchange (Armit 1997, 48; Sharples 2014, 229). Through travel and mass gatherings, the Votadini communities likely shared an overarching sense of identity.

The Votadini tribe was an agricultural and herding society occupying hillforts and homesteads, sometimes for as little as one to two generations at a time before relocating, although longer phases of dwelling were also common (Oswald et al. 2006). The act of relocating is speculated to have fostered a sense of shared community and identity as a community worked together toward rebuilding (Haselgrove & Moore 2006, 4). This tribe was bordered by the territory of the Brigantes, Selgovae, and the Damonii tribes; they are believed to have faced regular raids from their neighboring tribes (Harding 2017, 240). Attacks from without plausibly strengthened tribe-wide social cohesion as a form of oppositional identity (Hall 2002, 90-91).

The sites of a great number of the Votadini’s hillforts show evidence for Bronze Age, if not Neolithic, activity (Frodsham et al. 2006, 258). Several forts are built around Bronze Age cairns, and may be accompanied by Bronze Age rock carvings as is evidenced by Northumberland’s Yeavering Bell, West Hill, and Lordenshaws hillforts (Lock & Ralston 2024; Oswald et al. 2006 35, 39). It is possible these Bronze Age cairns were constructed on hilltops in order to be silhouetted against the skyline, much like the visual of the hillforts that would come to encompass them. There appears to be long-standing visitation and inhabitation of these hilltops and promontories, denoting the continued cultural importance of these locations (Oswald et al. 2006). The hillforts we know today were primarily constructed within the Iron Age.

Palisades were replaced by increasingly complex ramparts, ditches, walls, banks, etc., being built up over subsequent generations (Oswald et al. 2006). As a great many of the hillforts in Northumberland fall under one hectare in extent, it is likely these served as extended family homesteads (Oswald et al. 2006).

Hillforts are often depicted as the sites of battle and the training grounds for the fierce warrior tribes of Britain. The Celtic-speaking people of Britain certainly engaged in battle, from without their tribe and possibly from within, in addition to facing dangers from wild wolves and aurochs. Cassidy et al. discuss how the deposition of weaponry and “human remains displaying violence-related injuries and instances of intergroup conflict recorded by Roman writers such as Caesar and Tacitus” evidence regular violence (2025, 6). Conversely, violence was not the dominant aspect of everyday life. One must remember hillforts were the settlements of extended families and small communities. This is where IA tribes would have cooked, farmed, raised their children, corralled their livestock, fed their dogs and rabbits, woven their linen and wool into clothing, and so on. Hillforts would have seen more domestic activity than martial. It is critical to keep the full scope of life within and without a hillfort in mind so as to cease mischaracterization of the British borderland tribe members.

Hillforts have historically been understood as the homes of chiefs from which “his” family could oversee nucleated farmsteads comprising the community (Cunliffe 2005, 217). Yet, Northumberland boasts the densest population of hillforts of all Britain’s counties (Lock & Ralston 2024). It hardly seems reasonable to assume all 271 hillforts in this region housed elite members of this society. Given how prolific these constructions are around the Cheviot Hills, it is entirely possible that nearly all the Votadinian population lived in defended settlements (Frodsham et al. 2006, 258). Votadini hillforts probably served a small community or family unit,

rather than tribal elite. Compared with Northumberland's Votadini, the Brigantes' territory holds comparatively few hillforts. As Simpson says, "this suggests a greater degree of stability within the Brigantes' territory that was perhaps due to a successful centralised authority" (2022). The sheer number of hillforts may indicate a level of political instability, or fragmentation of the society. There were three to four clear population centers in the Votadinian territory which are assumed to have housed a political authority (Cunliffe 2005; Oswald et al. 2006, 97; Armit 1997, 48). If the tribe adhered to local political centers in addition to a single centralized power, we could be looking at further political division within the overall tribe (Simpson 2022). Another interpretation could be close inter-community ties. The vast majority of hillforts in this region have one or more hillforts within a three-kilometer range. It hardly seems reasonable to suppose these communities were in constant competition.

With slighter defenses and smaller sizes overall than their southern counterparts, the forts of this region are interpreted as primarily symbolic, markers of family territory and protection (Frodsham et al. 2006, 257). Aside from the few population centers, one may also choose to consider 'hillforts' as family homesteads, given the few roundhouses found within a majority of hillforts in the area (Frodsham et al. 2006, 257; Oswald et al. 2006).

By the Late Iron Age (hereafter LIA), British communities intensified inhabitation and specialized their use of the landscape on a wide scale (Haselgrove & Moore 2006, 4). Specialized production sites for salt making, grain grinding, ceramic production, and metallurgy become more common at the end of the IA, intentionally located away from residential sites (Haselgrove & Moore 2006, 4). Increasingly specialized goods are also produced and exchanged throughout the landscape (Sharples 2014, 229). An emphasis is placed on individual status and prestige goods in burial contexts in the last century BCE, evidenced by textiles, elaborate torcs

and helmets, imported amber beads, etc. (Armit 1997, 73). There was a rising class of elite warriors and political leaders in LIA southern England (Haselgrove & Moore 2005, 4-5, 11). The emerging class of elites coincides with the large-scale abandonment of hillforts across Britain, dated to have occurred primarily in the first century AD (Haselgrove & Moore 2005, 4-11). Much like other parts of Britain, it is possible that a kingdom or state-like political structure was developing in the late IA, leading to wide-scale cultural transformations and political consolidation (Nesbitt 2014, 226; Collis 2006, 534). Coalescing communities, rising population centers, and increasing political cohesion likely explains our evidence for the mass hillfort abandonment in the last century BCE (Simpson 2022; Armit 1997, 57). The LIA was apparently a time of change. It is in this changing landscape that the Romans arrive.

3.4: The Roman and Celtic Borderlands

Roman forces came to Britain in 43AD, pushing persistently northward through the time of the Flavian Dynasty, entering Scotland around 78 AD (Armit 1997, 103). Some Flavian era Roman forts show evidence for abandonment around 100-110 AD, although the extent of Roman presence in the region is unclear until the time of Hadrian (Hanson 2007). Emperor Hadrian (76-138 AD) ceased the Roman Empire's outward expansion, focusing instead on establishing internal stability (Opper 2008). Hadrian's Wall was completed in 122 AD, marking the northern extent of the Empire at this time. Roman-Britain encompassed the Brigantes territory, but left the Votadinian lands largely outside Roman control. The Romans once again pushed north of Hadrian's Wall under the command of Emperor Marcus Antoninus Pius (86-161 AD). Construction of Antonine's Wall began in 142 AD, holding this northernmost territory for twenty-three years. Much of the borderlands' time under Rome is murky; social change is

evident, but it has long been assumed Roman occupation was overall unimpactful for these tribes (Haselgrove & Moore 2006, 10).

In the time of the Flavian dynasty and again under Antoninus, the Romans constructed roads and military outposts between what would later become Hadrian and Antonine's Walls. From these posts, the Roman military could uphold administration of the local populaces. Social structures would have been reorganized, territorial borders were redefined, and local populaces would have been taxed on goods (Creighton 2006; Armit 1997). Surely massive disruptions to everyday tribal lifeways resulted in these tumultuous times (Kamash 2014, 686-688). On top of these alterations to everyday life, an ever present militarized force would certainly have been felt by local populaces.

In comparison with their neighbors the Selgovae, the Votadini "appear to have been more generously treated by the Romans...[which] might hint at a distinction between tribal policies" (Cunliffe 2005, 217). During the Flavian Dynasty, Governor Agricola secured cooperation with the Votadini before troops marched into the region (Creighton 1997, 101). There is speculation that the Votadini acted as cooperative mercenaries against their neighboring tribes for the sake of Rome around this time (Cunliffe 2004, 217). As a result, the hillforts of the Votadini survived Roman occupation remarkably well when compared with the Selgovae (Oswald et al. 2006, 101). Within these settlements, Roman coins and pottery have been documented across Northumberland, denoting the exchange of goods and/or services across the border (Harding 2017, 252). Traprain Law, the potential capital of the Votadini in the RIA, housed one of the largest known Roman silver hoards, possibly payment for service and protection against the raiding Caledonians and Picts (Armit 1997, 108; Harding 2017, 240; Hunter 2014, 186). The Romans were likely to have tolerated such a political center if in close allyship with the Votadini

(Cunliffe 2005, 217; Harding 2017, 252). Oswald et al. confirms the Votadini “cooperated with the Romans and were therefore allowed a large measure of independence. Thus they may have served... as a ‘buffer state’ between the Roman frontier and more hostile tribes further north” (2006, 101). There was clearly long-term peaceable, perhaps friendly, relations between the Votadini and the Romans throughout the RIA. Such treatment was evidently not shared by their neighboring tribes.

Rights and benefits would have been awarded to men willing to become Roman citizens, guaranteed by becoming a legionnaire (Nesbitt 2014 228, 232). “Britons” from across England are known to have willingly joined the ranks (Nesbitt 2014, 227). Nesbitt points out that “at the height of [the] empire around half of Rome’s soldiers were provincials who had acquired citizenship by virtue of their military careers” thereby guaranteed protections under Roman law (2014, 228, 232). It is entirely plausible members of the borderland tribes would have done so as well, obtaining Roman rights, wages, and safety for themselves and their family, now in the midst of Rome. The arrival of Rome would have brought more than soldiers, however. Roman forces would have brought slaves, migrants, merchants, and sometimes their own families, who originated from all corners of the empire (Eckhardt & Muldner 2014, 204). The Votadini would have re-negotiated their identity within the influx of diverse people (Kamash 2014, 688).

As the Votadini could become Roman soldiers, so too could they have been entered into slavery (Creighton 2006, 46; Armit 1997, 105). British slaves are reported by Strabo to have been exported across the empire (Creighton 2006, 46). Entering one’s political enemy into servitude certainly quelled political dissent (Creighton 2006, 46). As Cicero discusses, “foreign tribes are able to endure enslavement, but not the Roman people;” one of the peoples he names directly is that of Celtic-speaking *Galli*, or Gaul (Baird & Hanses 2024, 78-79). As Agricola

established positive relations with the Votadini, mass enslavement is unlikely (Creighton 2006, 101). However, we cannot rule out the possibility that some of their number found themselves as Roman slaves. In whatever numbers, both Roman-Votadini soldiers and slaves would be forced south of Hadrian's Wall come 165 AD.

In 165 AD the Romans retreated permanently south of Hadrian's Wall. To keep resources out of the hands of the previously subjugated, the Romans took from their own forts lumber, buried any usable iron, and burned the remains (Hanson 2007, 35). For no more than one generation at a time, the Votadini and their neighbors found themselves under the Pax Romana. Post-retreat, for the remainder of the Empire's span, the Votadini lived as a border tribe with the Romans to the south and raiding Celtic tribes to the north and east. Post-Roman retreat, the Votadini could thereafter have some level of agency in their continued relations with Rome (Nesbitt 2014, 266).

Sometime within or after Roman occupation, the RIA Votadini re-settled their ancestral hillforts on a regional scale. Current archaeological evidence is unclear whether this re-settlement occurred under the Pax Romana, or after the Votadini regained their political independence (Oswald et al., 2006; Cunliffe 2004, 2005). In this period of hillfort re-settlement, considerable structural changes occurred. An English Heritage team found that although hillforts were once again inhabited, IA ramparts went into disuse, often being robbed for stone (Oswald 2006, 103). In the RIA, rectilinear enclosures and internal walls also begin appearing. Oswald et al. discuss these perimeters as "usually slight- clearly not substantial walls like the Iron Age defenses;" while these would be adequate for dividing space and keeping livestock, the purposes of these new enclosures and barriers were not ostensibly defensive (2006, 103). Stone-foundation roundhouses became typical in this period, being smaller and more plentiful in general. The

hillforts overall are settled to a higher density, as communities amalgamate, making RIA Votadini hillforts more akin to small villages (Oswald et al. 2006, 103, Cunliffe 2005, 217). It is in this period of the RIA that considerable differences can be seen in Votadinian settlement and structural traditions, indicating socio-political change and shifting lifeways.

There was likely a 50-200 year gap between most IA and RIA hillfort re-settlement (Oswald et al. 2006 109; Cunliffe 2005, 217). How closely, then, would the re-inhabiting Votadini have associated themselves with these forts and their forebears? Was this an intentional redistribution of the population by Rome, or were the Votadini perhaps seeking some sense of security in the homes of their ancestors? What motivating factors led to this re-settlement, and

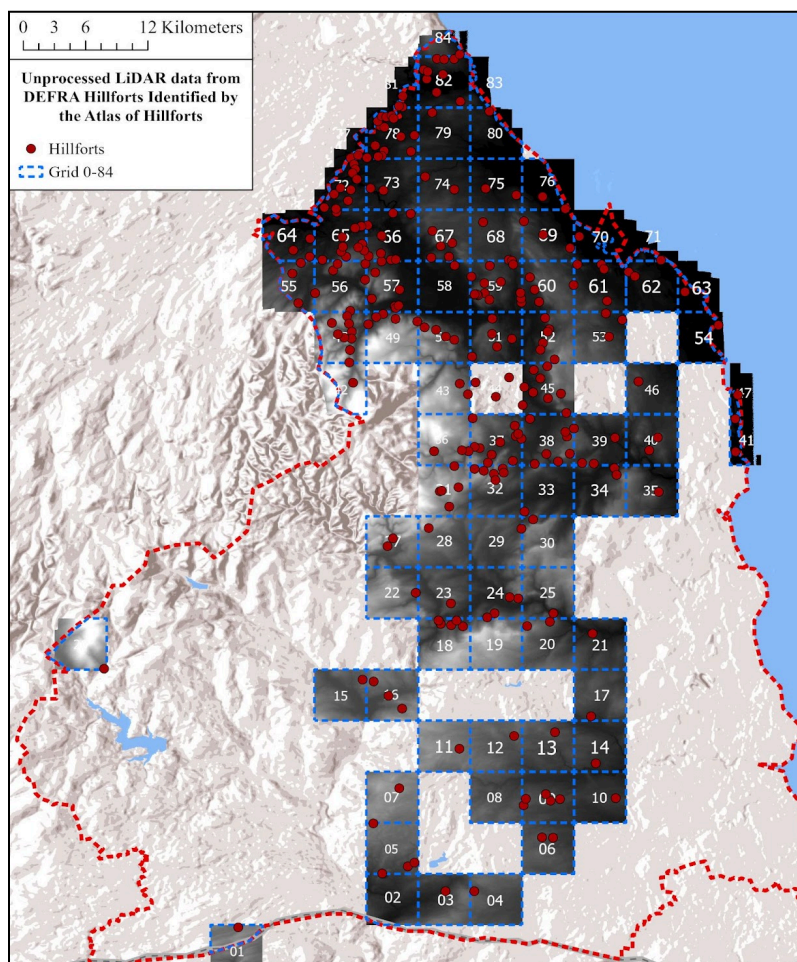


Figure 4.1.1: Map of the unprocessed LiDAR files from DEFRA and hillforts identified by the Atlas of Hillforts in ArcGIS.

how is the Votadinian landscape reshaped from one era to the next?

4: Methods

4.1: Data and Reference Sources

This project's research area comprises all known hillforts of Northumberland County north of Hadrian's Wall. In order to map the hillforts within the designated research area, consulted *The Atlas of Hillforts*,

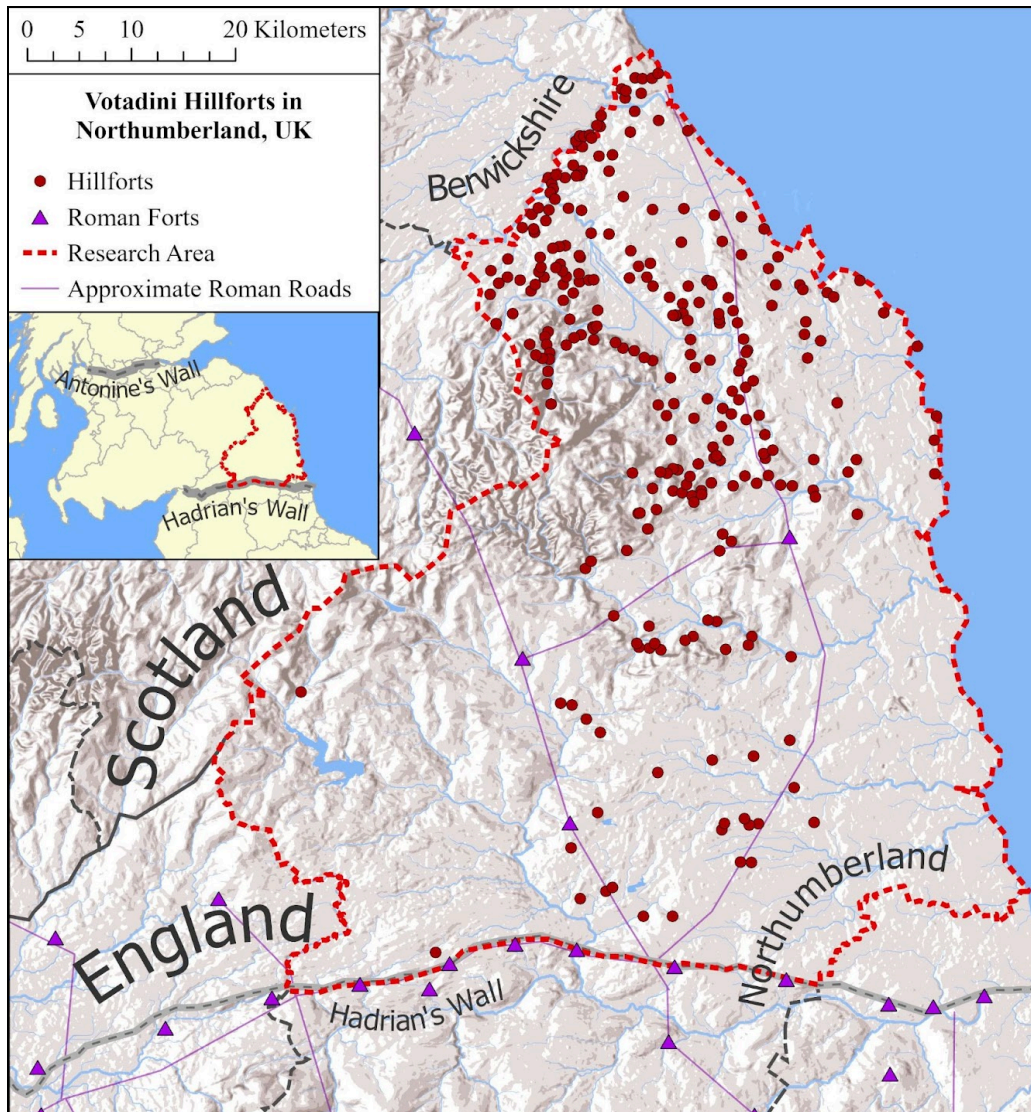


Figure 4.1.2: Identified hillforts in the research area with known Roman features.

a University of Edinburgh project and an authority on this archaeological phenomenon (Lock & Ralston, 2024). This database catalogued all 4,147 known hillforts across the United Kingdom and Ireland. What is considered a hillfort in terms of size, complexity, and morphology remains contentious in the literature (Cunliffe 2005, 321; Haselgrove & Moore 2006, 4; Oswald et al. 2006). For the purposes of this project, I followed the metrics indicated in *The Atlas of Hillforts* (Lock & Ralston, 2024).

Once all hillforts within the research area were mapped, LiDAR data at one-meter resolution was downloaded from The Department for Environment Food & Rural Affairs's Data Services Platform, collected from 2018 to 2020 (DEFRA). Multi-directional hillshade at a z-factor 3 was applied to the LiDAR data to emphasize surface and subsurface features. My primary sources of reference are: English Heritage, Historic England, *The Atlas of Hillforts* (Lock and Ralston, 2024), *Hillforts: Prehistoric Strongholds of Northumberland National Park* (Oswald et al., 2006), *Iron Age Communities in Britain* (Cunliffe 2005), *The Iron Age in Northern Britain* (Harding 2017), and *The Later Iron Age in Britain and Beyond*. (Eds. Moore et al., 2006). These sources discuss archaeological features in cultural and temporal context, allowing me to interpret what features were revealed through LiDAR data in ArcGIS.

4.2: ArcGIS Mapping, Spatial Analysis, and Statistical Work

Regional analysis synthesizes data into any notable trends apparent across a cultural landscape. Broad claims can then be made about patterns that both do and do not emerge out of this work. For this project, I mapped known hillforts in Northumberland County as well as their archaeological features. The hillforts considered for feature mapping and subsequent analysis could not be significantly obscured by tree roots, plowing, or post-medieval construction; thus internal features had to be evident using LiDAR. LiDAR being used in this case to assess subsurface features which may not be evident via other surface survey methods.

Once hillforts were identified, I collected data on each hillfort's size in hectares, complexity (univallate or multivallate), elevation, and level of preservation. I mapped hillfort features including: ramparts, banks, roundhouses, walls, and enclosures; ditches and roads were not specifically noted, but are generally apparent. The mapped features were assigned a general date category of IA, RIA, or Undated according to established characteristics (figures

4.2.1-4.2.3). Not all of the hillforts would have been settled at the same time, nor necessarily would all of the round houses within. Survey and excavation work would be needed to more thoroughly parse out stratigraphic levels and phases of settlement. Rather, I am looking at general patterns and assigning features a date within these two periods. A map was then created documenting all hillforts within the research area (figure 5.0). Said hillforts were ascribed one of three dating categories: IA, IA and RIA, or Undated (due to level of preservation). This regional map drives all further methods of analysis in this project.

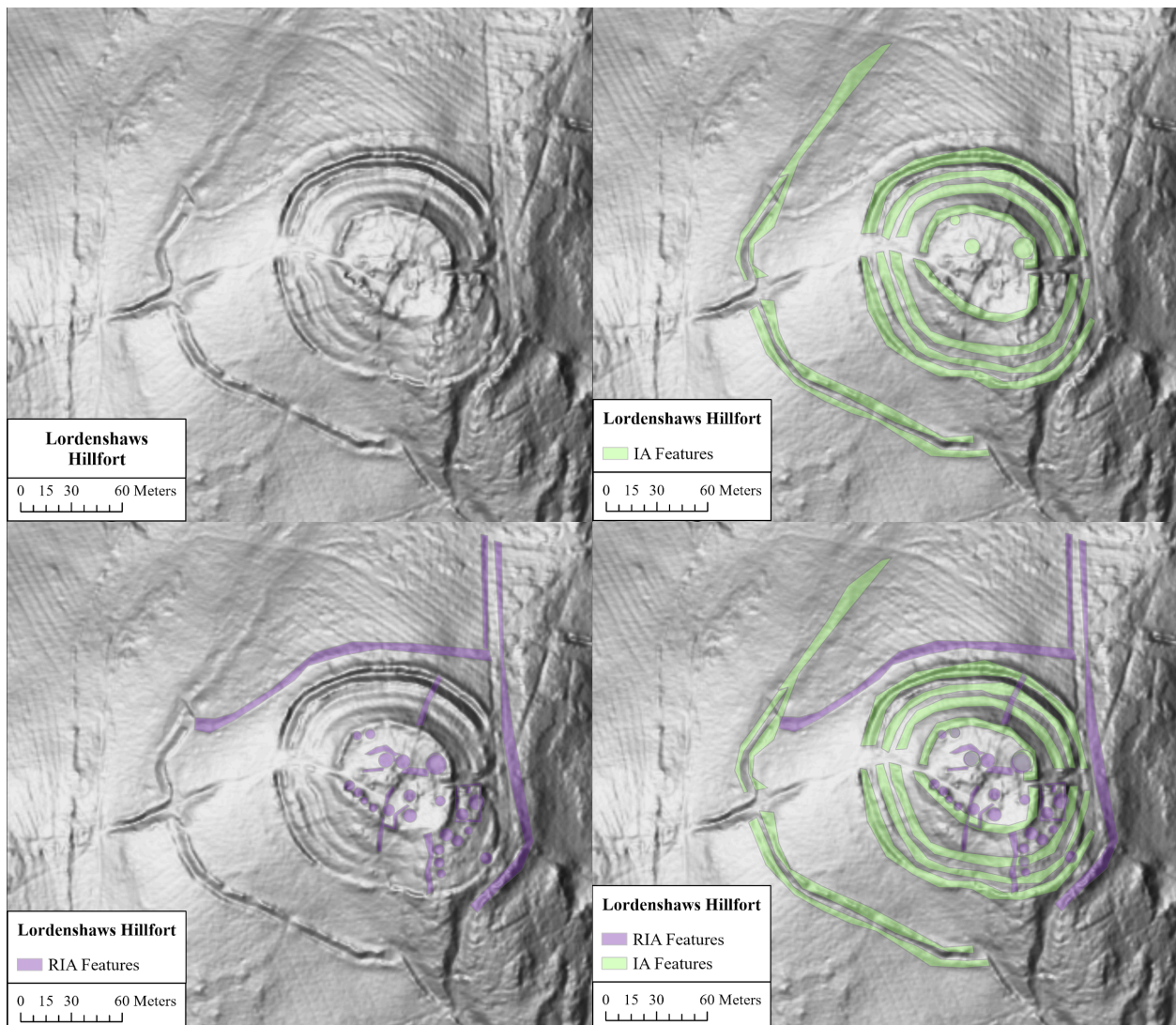


Figure 4.2.1: Lordenshaws Hillfort, Northumberland. Roads and ditches are not marked.

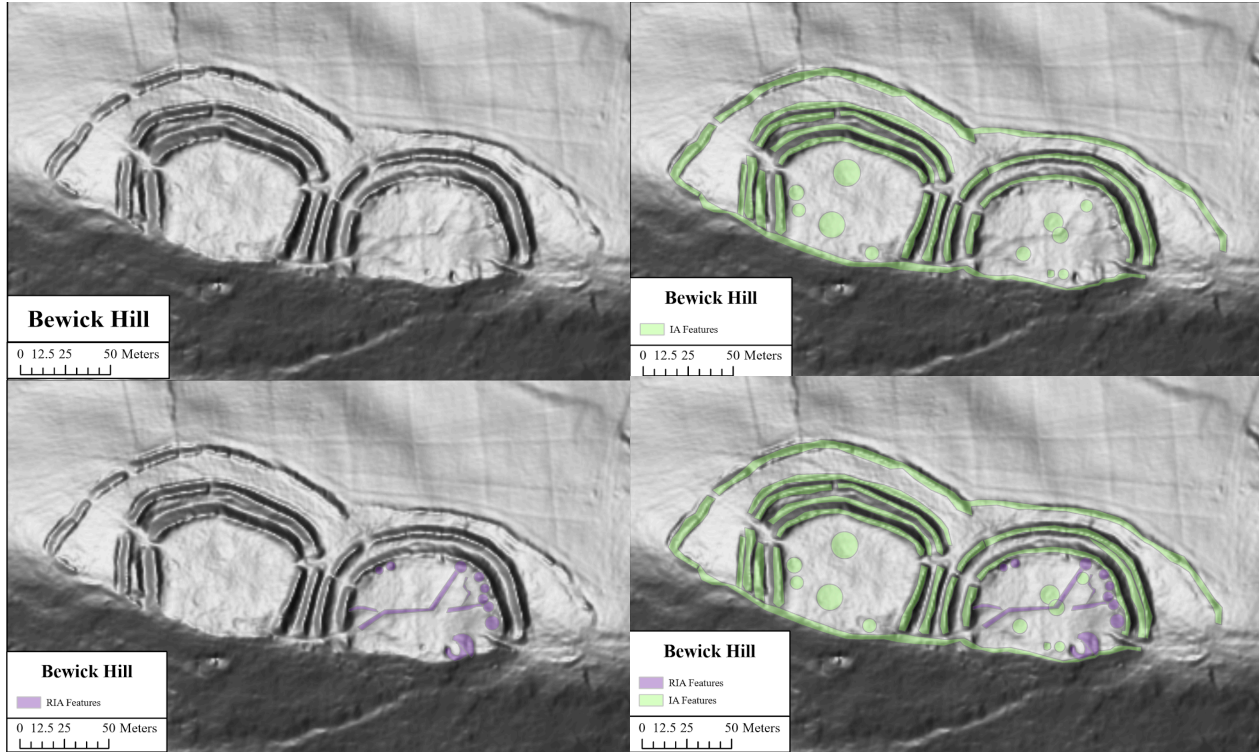


Figure 4.2.2: Bewick Hillfort, Northumberland. Roads and ditches are not marked.

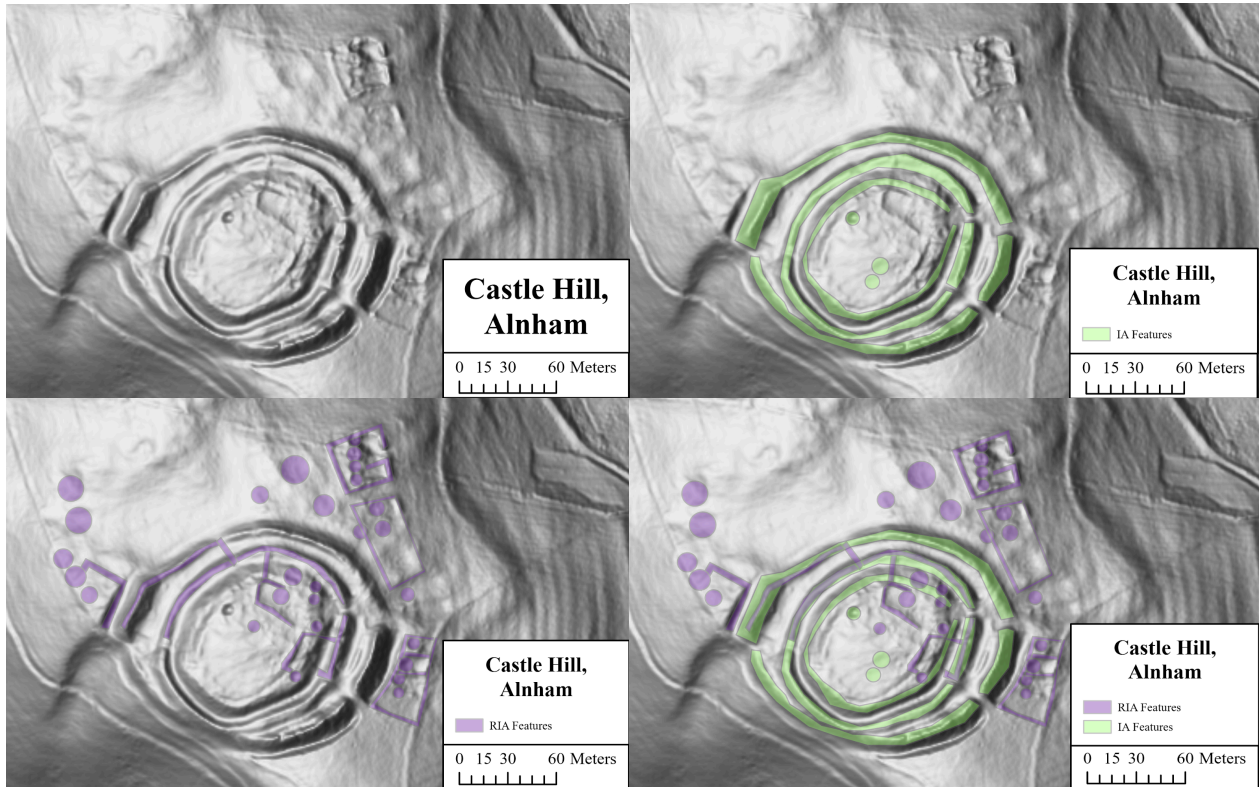


Figure 4.2.3: Castle Hill, Alnham. Roads and ditches are not marked.

Once the hillforts have been ascribed a rough date, characteristics and attributes can be examined for re-inhabitation preference in the RIA. I considered complexity, elevation, and clustering as potential contributing factors to RIA resettlement. Cluster analysis was employed to determine cluster groups and level of hillfort clustering in the IA and the RIA.

Although a variety of cluster methods were tested, HDBSCAN and K-Function were settled upon. HDBSCAN self-determines clusters as opposed to manual parameter inputs required with other methods; its self-identified cluster groups were viewed as less influenced by a researcher's preconceived parameters. K-Function determines the level of clustering observed in comparison with what would be expected of a random outcome.

If hillfort proximity, elevation, complexity, or size were preferred during mass re-settlement, a regional pattern should become apparent. After understanding any sought after hillfort features, I examined population distribution. I have used counts of roundhouses per hillfort, per era, to approximate the population. I have not estimated a potential population according to hillfort size or size and number of roundhouses, but rather I counted roundhouses alone. Although not an exact representative of population numbers, this method does lend an understanding of where people were in the landscape. The outcome reflects intensification of hillfort inhabitation in each era. Kernel Density was utilized to display a map of the number of roundhouses per hectare. The roundhouses of both eras are graded to the same scale of density for comparative purposes.

Movement analysis was then employed to understand how people would have traveled across the landscape from the IA to the RIA. To do so, I sampled the ten most populated hillforts in both periods and their movement to Yeavinger Bell. Yeavinger Bell was only inhabited in the Iron Age, but shows evidence of being an important center for travel, trade, and connection for

the tribe in both periods (Lock & Ralston 2024, Armit 1997, 48). A hydrology model was run to create a layer of approximate moving waterways. The resulting rivers were graded to 30% more difficult to traverse than the landscape, given the hilly region and difficulty in sailing upriver. The first method of movement analysis employed was Least Cost Paths (LCP), a tool that produces the singular path of least resistance from one point to another. After, Circuitscape was run with the same parameters. Circuitscape treats the surface of a landscape as a circuit board, classifying every possible path or movement in terms of ease (and therefore likelihood) of travel. This tool grades the entire landscape into what was more or less likely to have been traversed from the most populated hillforts.

5: Results

5.1: Forts by Era

271 hillforts were identified within the research area. Not all of these, however, met this project's qualifying criteria of preservation. A vast majority of hillforts were destroyed beyond this project's parameters, generally due to medieval and modern plowing. Of the original sample size, only 96 forts met this project's preservation criteria. Thus, 96 hillforts are identified as having Iron Age inhabitants, 49 of which show likely evidence for RIA re-settlement.

Once the Roman border is established, there is not a marked difference in hillfort inhabitation and nearness to the Roman Empire in the RIA compared to inhabited IA settlements. The latter Votadini are not consciously moving away from the Romans once the Empire arrives in Britain.

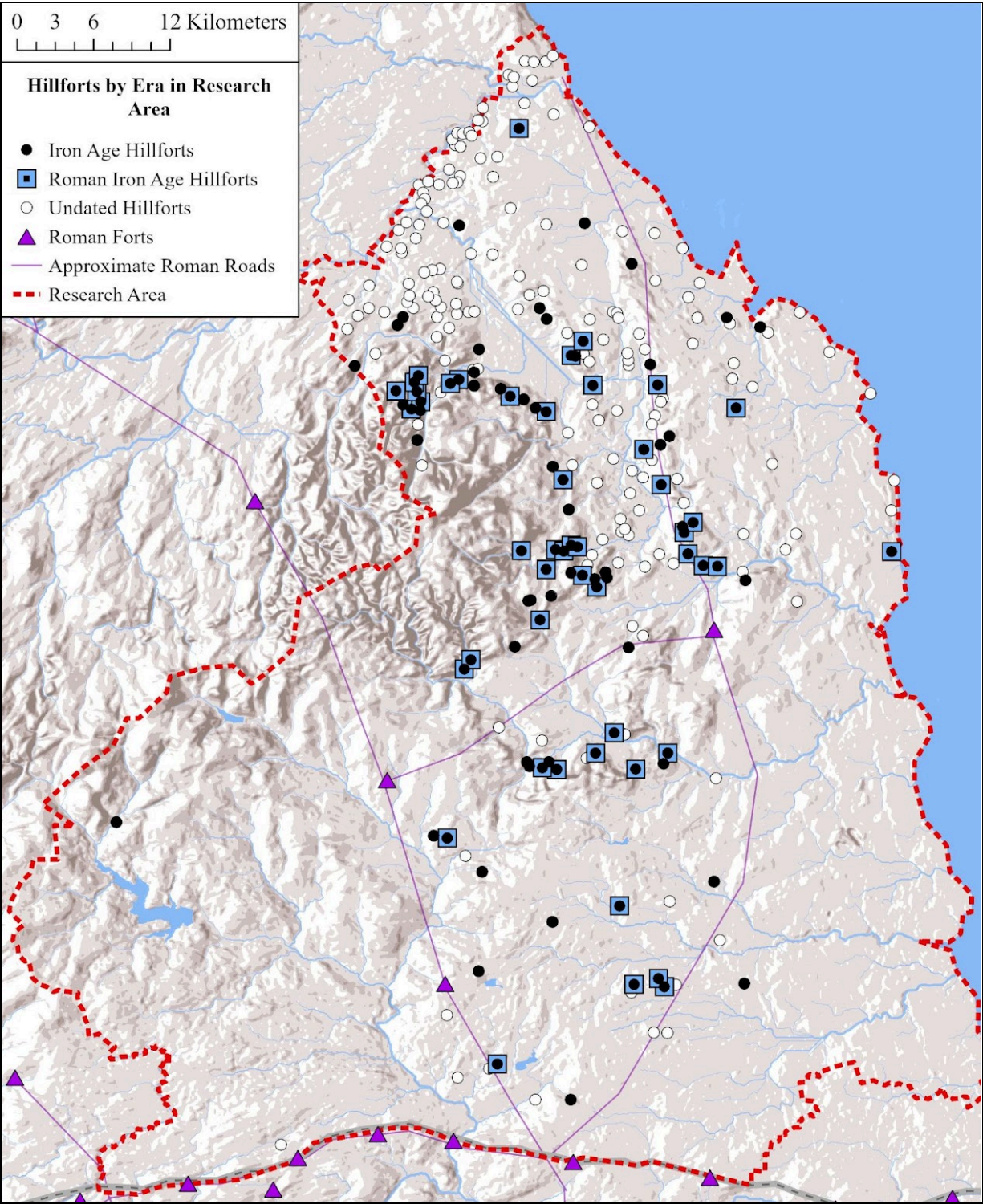


Figure 5.0: Resulting map of hillforts settlement per era.

5.2: Forts by Characteristics

	IA Roundhouses	RIA Roundhouses	IA Hillfort Size (Ha)	RIA Hillfort Size (Ha)	IA Elevation	RIA Elevation
Sum	676	535	106.41	66.43	n/a	n/a
Average	7.35	11.15	1.1	1.4	202.96	201.25
Median	4	10.5	0.79	1.09	205.5	198
Minimum	0	2	0.14	0.19	22	22
Maximum	130	27	6.28	3.95	371	334

Figure 5.2.1: Collected data points comparing settlement characteristics per era.

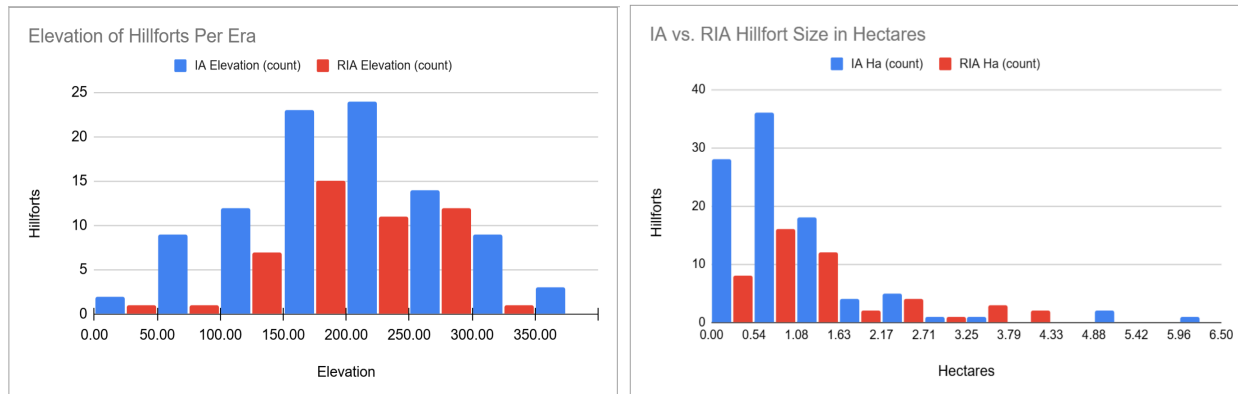


Figure 5.2.2a (left): A histogram of hillfort elevation.

Figure 5.2.2b (right): A histogram of utilized space.

Across both eras, the number of roundhouses attributed to each is similar. There is a decrease in these structures in the latter period, with 535 in the RIA versus the IA's 676 (figure 5.2.1). Some of this may be explained by the longer-standing period of the IA during which only a portion of these roundhouses were inhabited at a given time. It should be noted that a similar number of the Votadini population are settled in hillforts from the IA to the RIA. As half the number of hillforts are settled in the RIA when compared with the IA, we would expect to see approximately twice the number of roundhouses per hillfort, if the sum of roundhouses is similar. This is precisely what we see exhibited in figure 5.2.1. Thus the population settled in hillforts is similar in either era, but the Votadini are inhabiting half as many hillforts in the RIA as their IA ancestors.

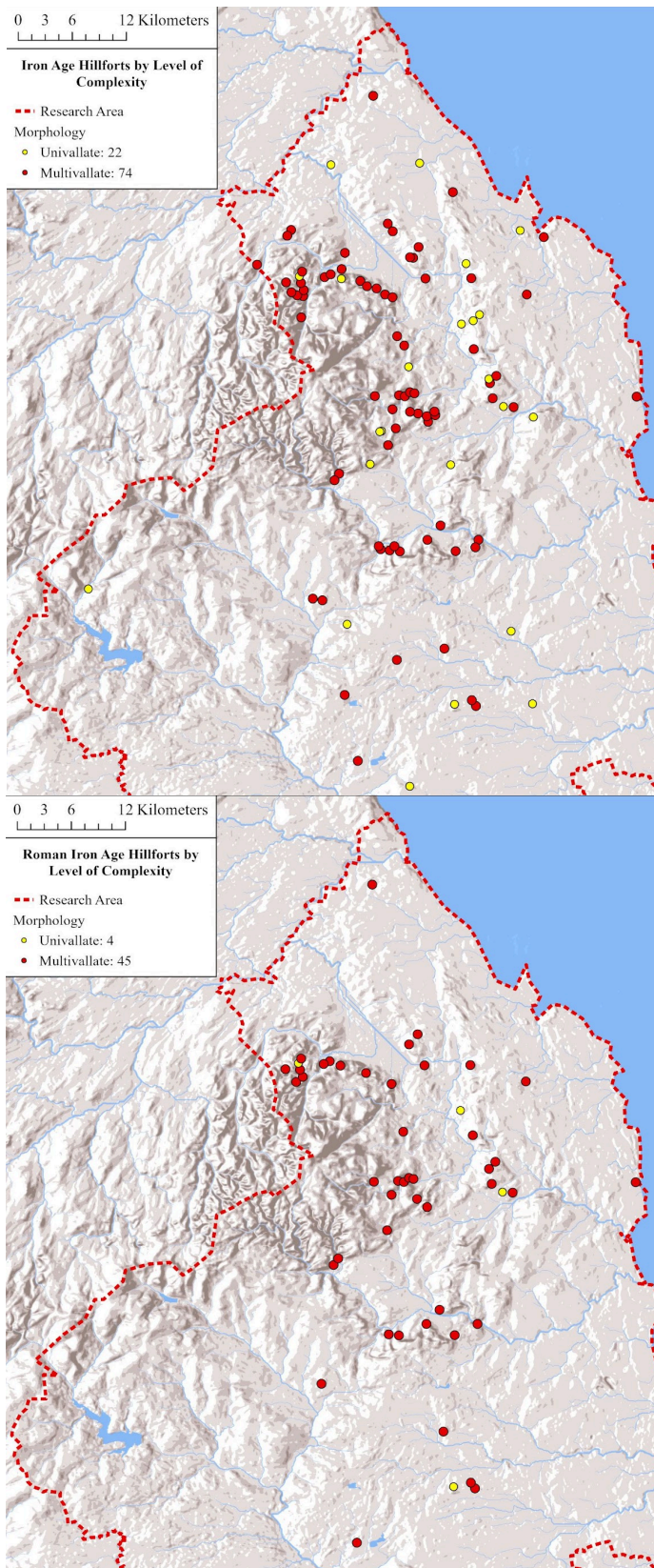


Figure 5.2.3: Mapped hillforts according to level of complexity.

In the overall landscape, the Votadini are on average living a similar distance from what becomes the Roman/Celtic border as their ancestors. In considering hillfort proximity to the Roman border, the southernmost IA hillfort in the research area is 4.3 kilometers from the eventual border (figure 5.0). The nearest re-settled hillfort lies 6.7 kilometers from Hadrian's Wall, a nearly negligible difference (figure 5.0). Once the Romans arrived, there does not appear to have been a conscious effort to move from the border, nor was there a forced expulsion of Votadini living near Hadrian's Wall for the purposes of creating a "buffer zone" between the populaces.

Hillfort elevation does not appear to have been a key factor to RIA re-settlement, as the average elevation, as well as the highest and lowest occupied hillforts remain consistent across time periods (figures 5.2.1 and 5.2.2).

	IA Univallate	IA Multivallate	RIA Univallate	RIA Multivallate
Count	22	74	4	45
Percent	30%	70%	9%	91%

Figure 5.2.4: Occurrence of univallate and multivallate hillforts per era.

The size of hillforts from the IA to the RIA are also consistent according to the statistics. The figures are skewed significantly by the largest IA Hillfort Yeavinger Bell (6.28 hectares) which was abandoned with the arrival of the Romans (figure 5.2.1). The largest fort in the subsequent RIA was 3.95 hectares. When broken down into a histogram the most prevalent category of IA hillfort size falls between 0.2-0.54 hectares (figure 5.2.2). In the RIA this increased to an average of 0.54-1.63. There is a pattern of RIA settlements expanding outside of the original IA extent, accounting for this growth (figure 5.2.3). The RIA Votadini no longer live in the largest forts, but there is a preference for overall larger settlements by around 0.5 hectares.

What is notable, is the change in univallate (single rampart) and multivallate (multiple rampart) settlement between the periods (figures 5.2.3 and 5.2.4). In the IA, 22 identified forts are univallate (30%). In the RIA, only 4 of the 49 hillforts are univallate (9%). With a 21% proportional decrease in univallate hillforts, it appears that multivallate hillforts were markedly preferred by the RIA Votadini (figures 5.2.4 and 5.2.5).

5.3: Site Clustering



Figure 5.3.1: K-Function analysis of hillfort clustering in each era. The IA is displayed on the left, and RIA is on the right

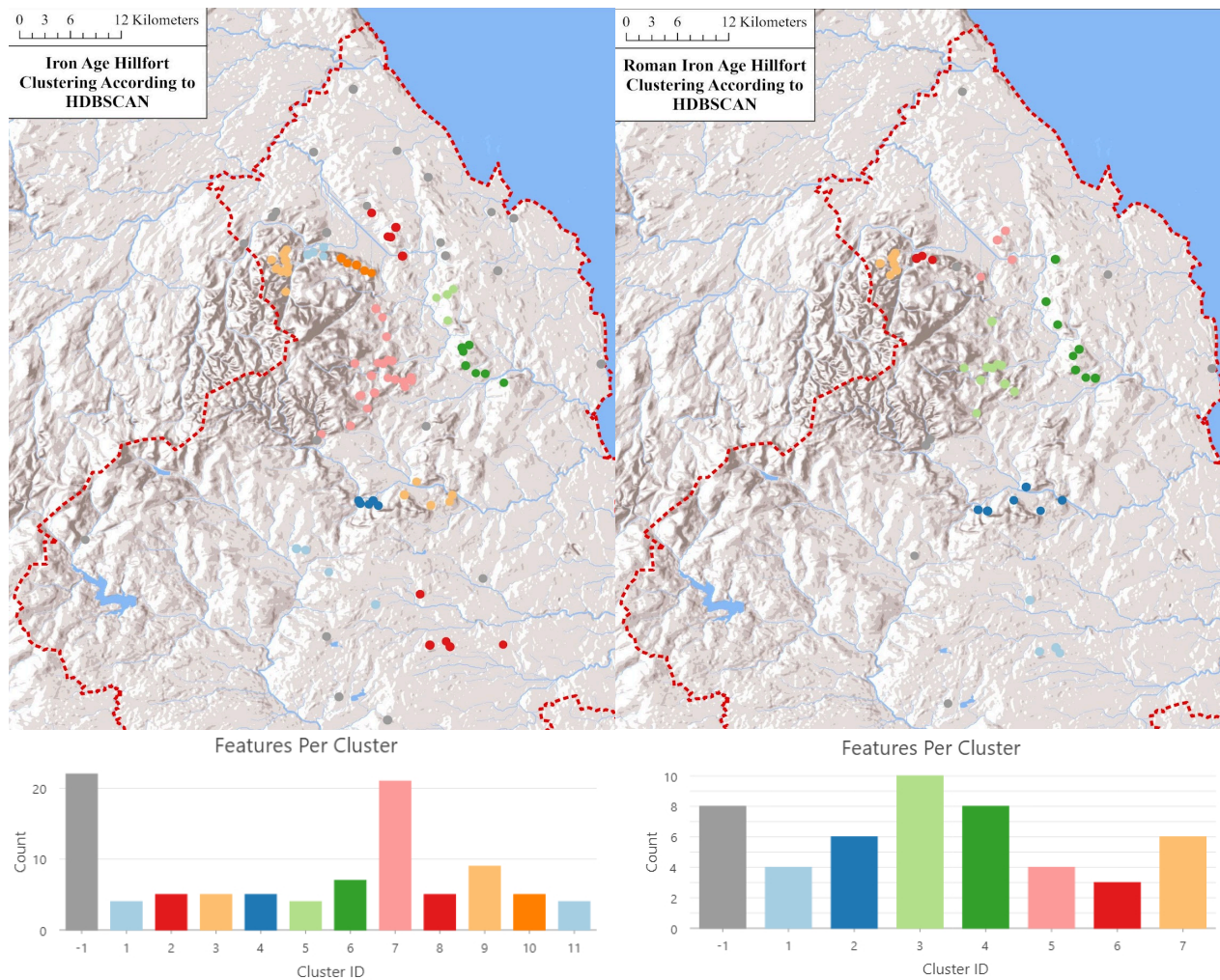


Figure 5.3.2: The clustering of hillforts according to HDBSCAN.

A number of clustering analyses were run with varying parameters, but ultimately, this project will display the results of HDBSCAN and K-Function Analysis. These methods identify when sites occur nearer to one another, or in greater density, than would be random. The larger cluster groups in the IA HDBSCAN is explicable knowing the Votadini occupied twice the number of hillforts in the IA as in the RIA. Proportionally, HDBSCAN identifies 60% of forts as being clustered, or notably near one another in the IA, and 70% of RIA forts as being clustered. Although there is more clustering of settlements in the RIA, both HDBSCAN and K-Function

indicate that it is not statistically significant. In neither period are the Votadini seeking notably nearer or farther neighbors.

5.4: Distribution of the Population

The number and location of roundhouses in both the IA and RIA were run through Kernel Density and weighted to the same scale. In the IA are the few densely populated centers, pictured as tier 5. The two densest population centers are Yeavinger Bell and Old Fawdon Hill which contain 130 and 61 roundhouses respectively. These populous settlements may be akin to burgeoning *oppida*, or urban centers, concentrating large numbers of the population around the Cheviot Hills region. The population centers count for few of the overall settlements. The vast majority of hillforts house 1-8 roundhouses, displayed in tiers 1 and 2 of density. While population centers are evident, most of the IA Votadini live in small communities of just a few family units. Few hillforts fall within a middle range.

In the RIA, the most populated hillfort holds 27 structures. This is a significantly less dense population than the two most populated hillforts of the prior era. Some forts fall within Tier 1 of density, but a large portion fall within tiers 2-3. Typical hillforts in this period appear to have 8-16 roundhouses (figure 5.4.2b), and on average twice as many as the prior period. Overall, these forts fall more within the middle tiers of population having a more even distribution. Population density per settlement standardizes in this era. The population is similarly more spread across the landscape, rather than concentrated in a few dense zones as in the prior era.

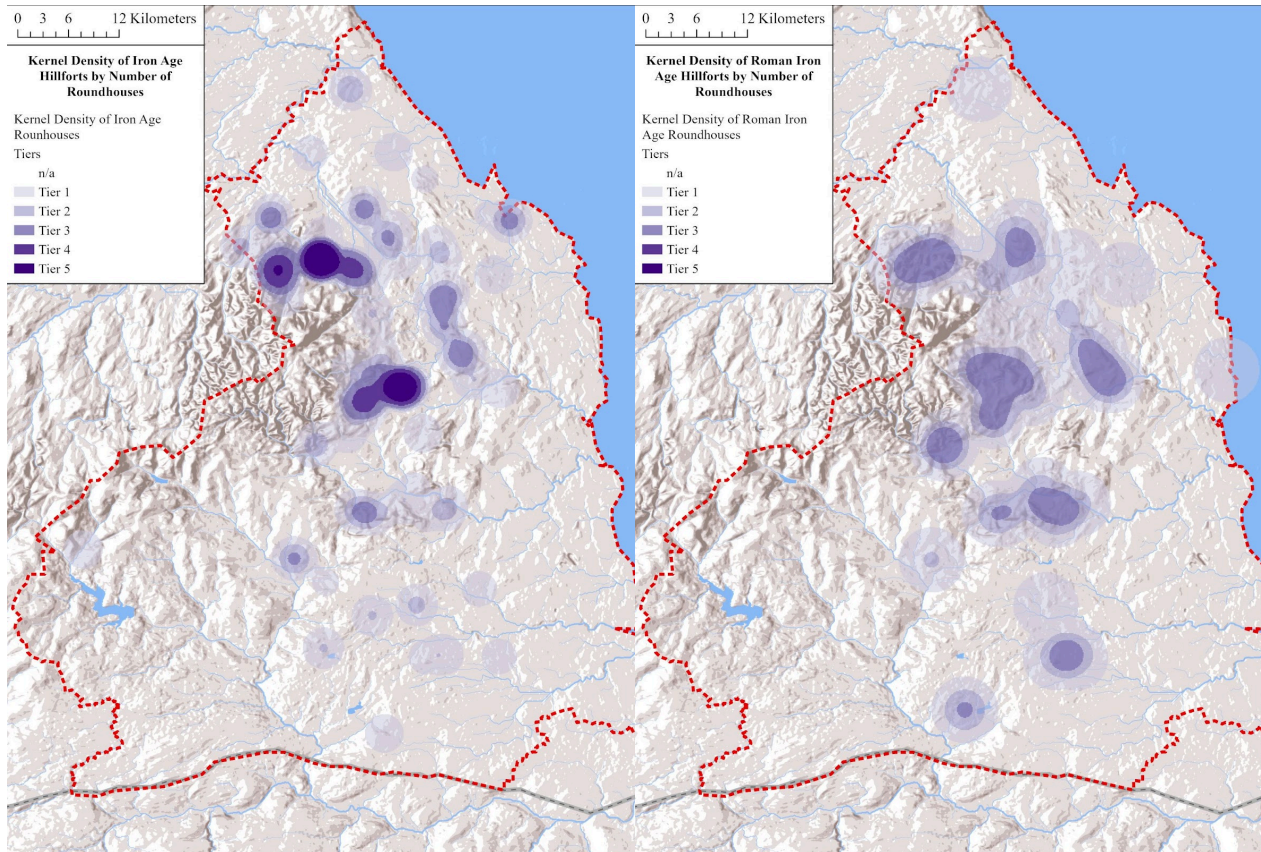


Figure 5.4.1: Kernel Density based on the number of round houses per hectare.

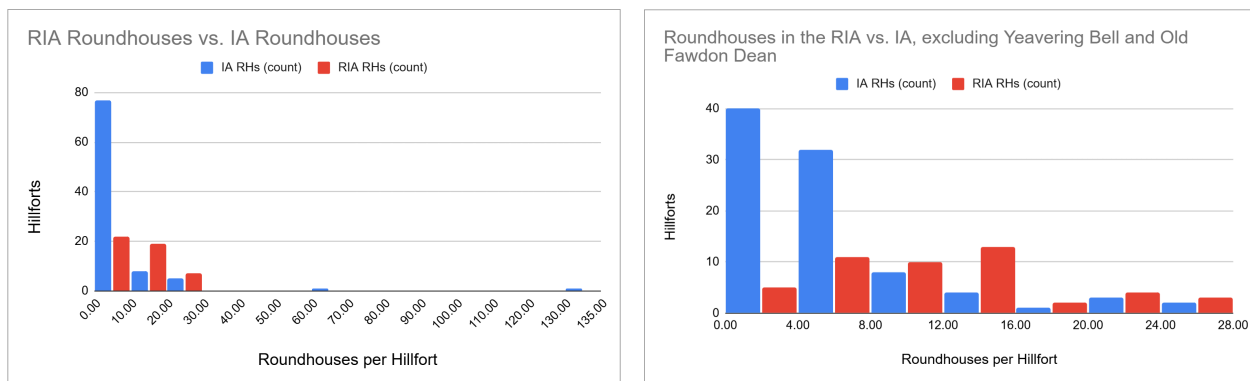


Figure 5.4.2: Histograms of the number of roundhouses per hillfort (left) and excluding the outliers: Yeavinger Bell and Old Fawdon Hill.

5.5: Movement Across the Landscape

The Least Cost Paths (LCP) and Circuitscape analyses look at movement to Yeavinger Bell from/amongst the ten most populated hillforts. Yeavinger Bell was permanently abandoned around when Agricola invaded. The site, however, has material culture deposition dating to the

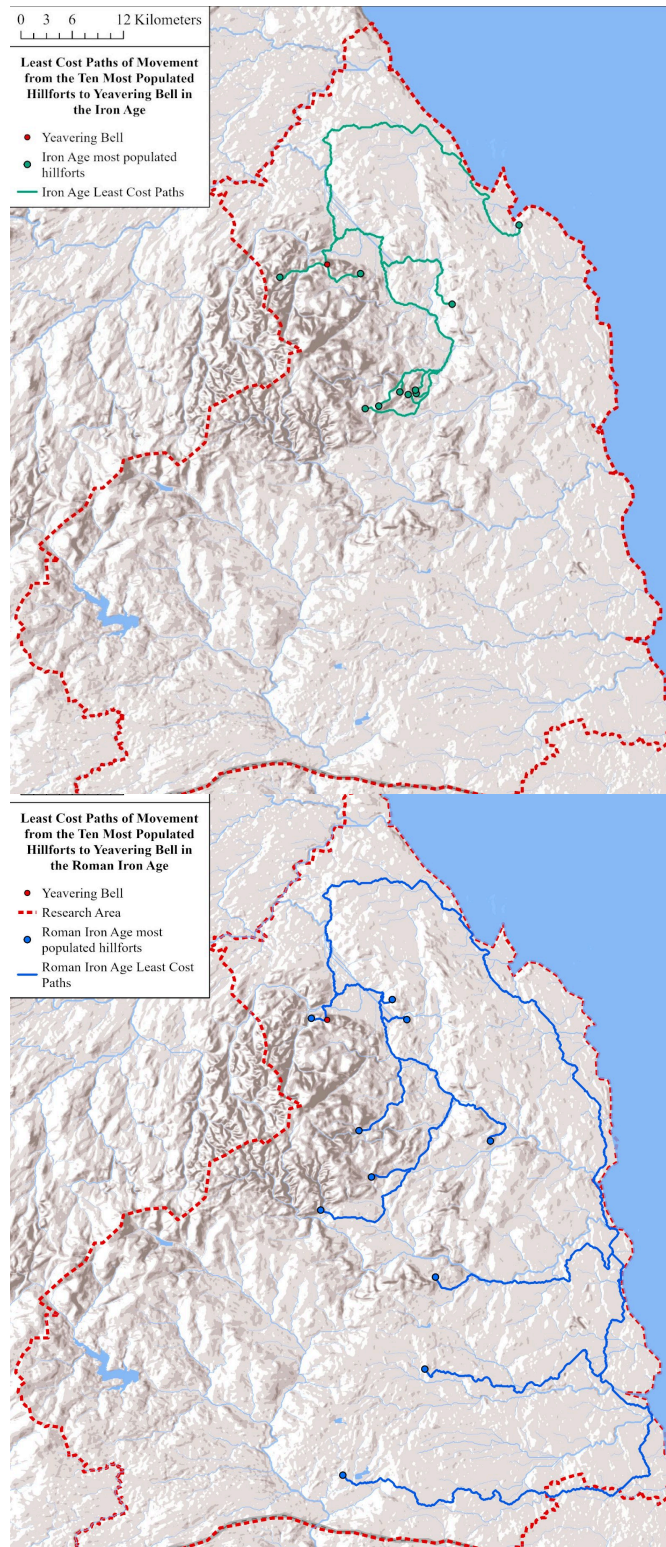


Figure 5.5.1: Mapped LCPs from the ten most populated hillforts

RIA (Lock & Ralston 2024). The site was evidently visited still by the Votadini post-abandonment, but was not re-settled. The activity warrants an analysis for the site being traveled to by the Votadini.

The ten most populated Iron Age hillforts are all located in north Northumberland, primarily around the Cheviot Hills. This makes the journey to and from the more densely populated IA hillforts relatively brief for a notable portion of the population. The path of least resistance follows water ways for only small portions of the theoretical journey. The coastal hillfort does have a path somewhat defying expectations, taking a notably northern route. How likely a path was to be taken can be discussed through subsequent Circuitscape analysis.

In the RIA, the most populated hillforts spread across the landscape from north to south. The paths traveled by the Votadini are significantly altered to and

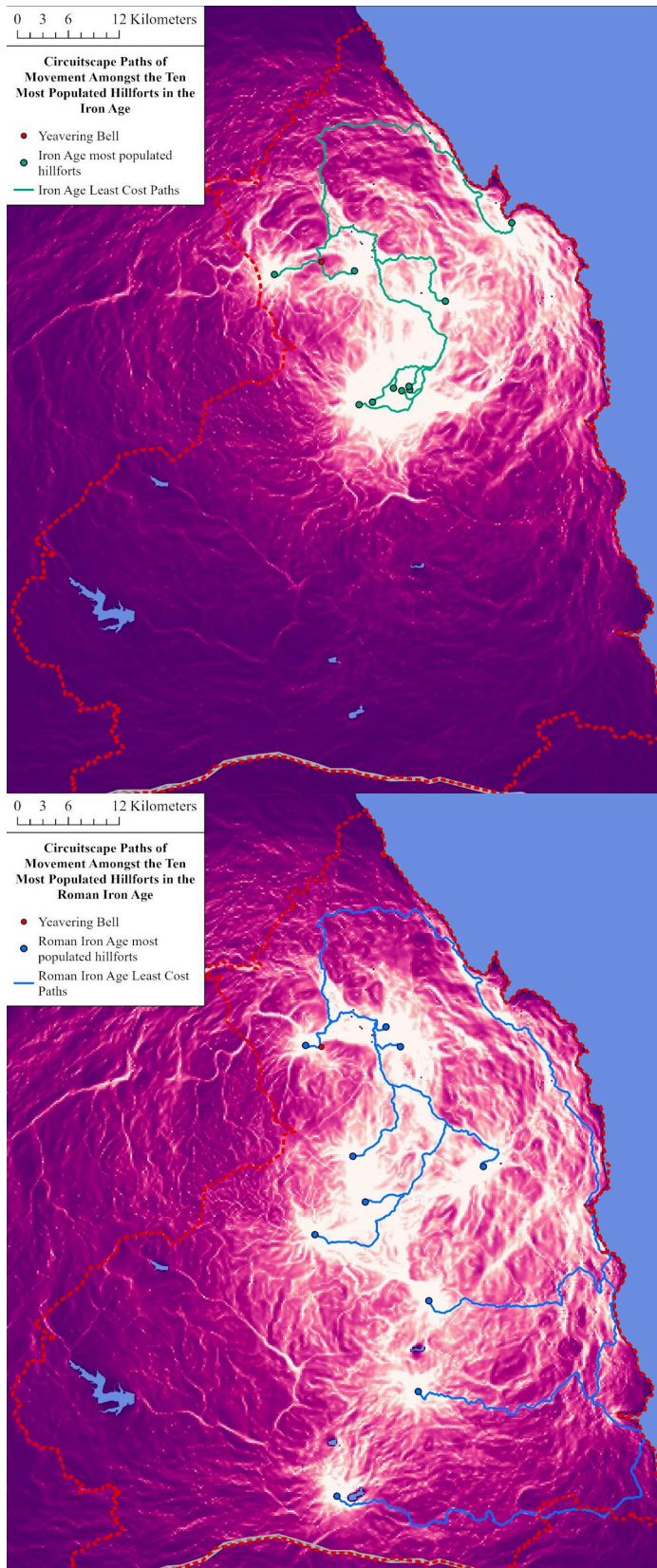


Figure 5.5.2: A cost of movement map with LCPs overlaying Circuitscape.

from Yeaveering Bell. For the three southernmost forts, a circuitous coastal route is identified as being the path of least resistance. The remaining sites are shown to have a likely path through the Cheviots, reminiscent of the prior era.

The IA Circuitscape displays more likely paths in lighter colors, with less likely paths in purple. Surrounding the concentration of densely populated hillforts in the southern Cheviot Hills is an area of high walkability. This analysis suggests the likelihood of travel between all sampled hillforts, rather than solely to Yeaveering Bell, thus complicating possible movement patterns. Circuitscape does identify some potential paths to and from the coastal hillfort which would be more direct than the northern route projected by LCP.

The RIA population density is more spread out, thus lighting the map as a whole as more likely to be traveled. It

does recognize the ease of coastal routes as LCP did. Circuitscape, however, identified a higher likelihood of inland travel through the center of Northumberland. A higher portion of the population appears to be living away from the IA population centers. If they are still in use, the journey would have been greater for more of the population in this period.

LCP and Circuitscape's analysis of least cost paths of travel do align. LCP identifies the very easiest course of movement, whereas Circuitscape has lit up the landscape in a grade of more to less probable. The two tools corroborate on likely coastal paths, though Circuitscape presents more direct options through the Cheviot Hills. The routes of likely travel noted by Circuitscape are more direct than the coastal paths of least resistance. If either method of movement analysis is reflective of utilized pathways, then tribe members would have to weigh a longer but easier trek by the ocean versus a direct but strenuous path through hilly territory. In the RIA, more of the population is spread across the landscape, therefore necessitating longer, more laborious routes of travel. Community travel may have been taken with a greater significance in the later period.

6: Discussion

6.1: Hillforts by Era: Which Hillforts are Settled, When, and Why

Half of the IA hillforts studied in this project were reinhabited in the RIA. What must be asked is why certain forts were resettled and not others, and what this RIA hillfort resettlement looked like? Cunliffe notes an apparent "buffer zone" of destroyed and abandoned hillforts in the near vicinity of Hadrian's Wall within Selgovae territory, reflective of a relational difference between the tribes and Rome (2005, 217). Once the Roman border was established in the RIA, there was no clear Votadinian preference for living nearer or farther from the wall than where the

IA hillforts were concentrated. It appears the Votadidi were not overly fearful of the neighboring empire and did not actively seek distance. This would support the notion that the tribe had friendly relations with Roman Britain.

In the RIA, there is a preference for somewhat larger hillforts, as the typical utilized space is up to half of a hectare larger than in the IA. The RIA Votadini are inhabiting few hillforts under half of a hectare, and more than this, they are expanding past the prior bounds. In the IA, few non defensive structures could be found beyond the ramparts, ditches, banks, and palisades. The RIA Votadini pushed out of the prior rampart bounds, constructing enclosures, walls, roundhouses, banks, and barriers outside of IA ramparts. The RIA Votadini may have been reinhabiting their ancestral forts, but the use of re-settled hillfort space is intensified.

The clustering of sites for both eras is above what would be considered random, thus the nearness of neighboring communities seems equally important to the Votadini in both periods. Community proximity appears critical to Votadinian lifeways. The vast majority of hillforts in the region are within a three-meter radius of another hillfort, with many people considerably closer (figure 5.3.1). It is unreasonable to think the people of these close-lying forts were consistently at arms with one another. In such close proximity, cooperation seems more probable than competition (Frodsham et al. 2006, 255). It is likely the communities would have traveled to and from one another, forming bonds, marrying into families, and trading goods. Recent MtDNA evidence (mitochondrial DNA passed to a child by the mother) shows the Insular Celts may have practiced matrilocality whereby men would have relocated to the generational homes of their brides, establishing themselves within her community (Cassidy et al. 2025, 2). Most IA hillfort communities were incredibly small, often housing just 1-6 households. Inter-community marriage would have been critical, necessitating travel and communications

between neighboring settlements. Generational marriage negotiations between these closely clustered communities would serve to forge social bonds and foster peaceable relations.

What seems to be a notable factor in hillfort re-inhabitation is the level of complexity the hillforts reached in the IA before abandonment. The inhabitation of univallate hillforts went from around one in three in the IA to one in ten in the RIA. It must be noted that the hillforts are believed to have been abandoned for somewhere between 50-150 years characterized by the collapsing of ramparts between phases (Oswald et al. 2006 109; Cunliffe 2005, 217). The RIA Votadini did not restore these ramparts, instead allowing them fall into further disrepair. If they did not seem to require defense maintenance, why were the Votadini resettling multivallate hillforts over univallate? One explanation is that of higher levels of construction material offered by multivallate forts over univallate. Surface surveys and excavations in the region have in fact revealed evidence of RIA and medieval stone robbing of ramparts (Oswald et al. 2006). By the end of the Iron Age through the RIA, the Votadini were constructing their roundhouse foundations and enclosure walls with stone. Collapsed multivallate ramparts make for freely available sources of cut stone from which to recycle building material. Additionally, multivallate settlements also perhaps appeared more visually impressive and therefore could attract potential settlers through sheer impact upon the landscape over a univallate settlement.

Another likely explanation is cultural memory. The Votadini were only under the rule of Rome for a single generation at a time. The hillforts of their forebears would have been unused for around one to seven generations. It is entirely possible the Votadini would have had some lingering sense of connection with the hilltop settlements. Further, univallate hillforts often show fewer dwelling phases before abandonment; the ones that are inhabited continually are generally built up over generations to become multivallate (Oswald et al. 2006). If multivallate hillforts

had a longer tradition of being settled, then these forts were likely to have been more recently inhabited before the arrival of the Romans, thus more likely remaining in living memory of the Votadini. Some combination of the cut stone resources offered by multivallate hillforts combined with cultural memory could have been key to settlement preference.

6.2: Mapping Features: Structural Traditions and Social Change

As was briefly discussed in the prior section, the survey work completed by English Heritage archaeologists found that IA ramparts fell into disrepair in the RIA. To add to this discussion, I noted there were significantly more structures outside and in between ramparts in the RIA than were in the IA. There appears to have been less need, or want, in this period for such defensive structures. It could be that the RIA saw a period of peace hitherto unknown to their IA predecessors. If the Votadini were in fact on friendly terms with the Romans, they may not have needed to maintain defenses or close watches on the landscape. Frodsham et al. and Armit believe a primary purpose of ramparts, ditches, and banks may have been as a status symbol (2006, 257; 1997). In a time of peace, the symbolism of defensive structures would have been less warranted. It has been speculated that the Votadini acted as mercenaries for the Romans, but perhaps the protection was reciprocated (Cunliffe 2004, 217; Oswald et al. 2006, 101). Rome traditionally sent military aid to its allies, potentially lessening the threat the Votadini may have faced from other tribes (Creighton 2006, 50-53). If the ramparts' intentions were to appear imposing, and conflict was no longer a primary issue for the Votadini in the RIA, then defense maintenance would have been less critical. Finally, there is a possibility that the lack of defenses was an intentional message of compliance and non-threat to the Romans (Oswald et al. 2006, 103). By appearing to have been defenseless, the Votadini were visibly not rising up against Rome as their contemporaries did. A combination of two factors is likely at

play. The Votadini may be experiencing a time of peace as Rome's ally, while also appearing intentionally harmless, fearing further invasion. Cooperation with the empire was certain to have felt tenuous at times.

In the Iron Age, roundhouses were nearly always found within their contemporary ramparts. The defensive structures served to act as a barrier, delineating what was protected inside from the surrounding landscape. In the RIA, structures were often constructed in between or outside of IA defenses, incorporating them into new settlement layouts. Lordenshaws and Castle Hill (figures 4.2.1 and 4.2.3) exemplify this regional trend where enclosures are built external to the hillforts, and roundhouses can be found inside, overtop, in between, or external to ramparts. Settlements are expanding with an average of twice as many households as in the prior era, necessitating space extension (figure 5.2.1). Not only are prior defenses being ignored in the RIA, individual communities are coalescing into larger ones as a possible reflection of greater social cohesion across the tribe. With communities merging into villages and constructions outside of disused defenses, we are likely looking at a time of greater tribe-wide peace and changing social statuses amongst growing communities.

The average sizes of roundhouses shrink from one era to the next (Harding 2017, 76). IA roundhouses were often large, probably housing multiple generations of a family. With the low density of the majority of IA roundhouses per hillfort, this likely means the hillforts themselves were the homesteads to one or a few distinct families (Oswald et al. 2006, 103). Family units would have been large, probably close-knit, and would have had to marry into the families of other communities. In the RIA, roundhouses become smaller, often being 4-15 meters in diameter, although 7-12 meters is common. These are believed to have been home to nuclear family units (Oswald et al. 2006, 103). The change from extended families to nuclear families

denotes shifting social ties, methods for rearing children, and potential divisions within communities.

It is within the RIA that rectilinear structures are introduced to Votadinian hillforts, possibly influenced by Roman building traditions (Harding 2009, 76; Cunliffe 2005). Walls, barriers, and divisions of space internal to the hillfort also appear in this era. IA hillforts tended to have primarily communal space within the ramparts. Parts may have been sectioned off for livestock or production activities, and families may have scooped yards extending from their homes, but obvious divisions of public versus private spaces are not commonly known. By the RIA re-settlement, the Votadini erect barriers internal to the hillforts, separating space to be used by family units, from craft and community space. This shift could also be inspired by the nearby settlements and forts of Roman origin. Alternatively, the demarcation of space in RIA hillforts could be a signifier of internal strife or conflict. In the RIA, there appears to be a region-wide need to define oneself within the larger community (Haselgrove & Moore 2006, 7). Haselgrove and Moore note “the appearance of keys in the archaeological record at this time, indicative perhaps of a shift from a lack of need for closure, or one based on taboo and social practice, to one based on physical barriers” (Haselgrove & Moore 2006, 7). What once were small communal settlements are now small villages, cordoned off into sections for the public and for what belongs to the individual household.

6.3: Distribution and Movement of the Population

The IA Votadini lived primarily in small communities. They were spread across the landscape, likely denoting political division within the tribe. There can be found a few population centers within the research area: Yeavinger Bell and Old Fawdon Hill. Outside of the research area can be seen centers such as Hownam Law and Eildon Seat, with Traprain Law

likely acting as the “capital” by the late IA (Cunliffe 2005). The largest communities within the research area are concentrated around the Cheviot Hills with the remaining settlements being considerably smaller. As the Votadini adhered to a chiefdom/kingdom structure, it is possible Yeavinger Bell would have held a person or family of authority within the overarching tribal structure, at 130 households strong. Yeavinger Bell could have also been a site of economic or religious significance to which members of the tribe would have traveled to seasonally (Cunliffe 2005, 127; Armit 1997, 48). As a site of coalesced populations, sites like Yeavinger Bell would have stood in stark contrast to the sparsely populated landscape (Sharples 2014, 231). If Yeavinger Bell acted as a center for socio-political purposes within the research area, surrounding the relative area with populations denotes close social ties. Large portions of the population would be traveling fairly short paths to and from these centers. The remainder of the population lived in sparsely populated hillforts dotted across the landscape. Travel from those on the coast or in southern Northumberland would have had a considerably greater journey to known population centers. These communities may have been more isolated from the center, but would have interacted with one another on a regular basis.

In the RIA, the population centers of Northumberland have been abandoned. Traprain Law in East Lothian was continually occupied until the 6th century AD, acting as the tribe's capital. However, within Northumberland, Yeavinger Bell and Old Fawdon Hill went into disuse within the RIA. Yeavinger Bell was inhabited up until the Romans pushed north of Hadrian's Wall (Cunliffe 2005, 217), the abandonment of which was almost certainly incited by the Romans. It is believed that Yeavinger Bell was still being visited by the Votadini in the RIA based on dated deposited material, but it was no longer inhabited (Lock & Ralston 2024, Armit 1997, 48). Instead, the many round platforms may have housed impermanent structures or tents

as the tribe continued to congregate for seasonal trading and festivals (Lock & Ralston 2024). The site seems to have remained important to the Votadini, but the abandonment is less explicable if so. It is probable the evacuation of Yeavering Bell and Old Fawdon Hill were implemented by the Romans in their twenty-three year occupation. These populations, once occupying up to 191 households in total, could have been forcibly relocated to settlements elsewhere. Relocation and redistribution of borders, populace, warriors, and political figures is a known tactic by the Roman Empire (Collis 2006; 526; Kamash 2014, 688). Collis says, “the evidence that we have suggests these ‘kingdoms’ crossed tribal boundaries, and were split up and re-organised at the time of the Roman organisation of the province” (2006; 526). Political actors (chiefs, kings, queens, prominent warriors, etc.) were particularly likely to find themselves entered into slavery (Creighton 2006, 46). Such reorganization served to decentralize local power, destabilize the population, and lessen the threat of rebellion.

The question remains as to why the Votadini left such centers abandoned after Rome retreated. I think there are two plausible answers. One is a non-threatening display to the Romans, similar to the potential explanation for rampart disregard. Traprain Law was allowed to continue as a central power for the Votadini, being over 100 kilometers away. Yeavering Bell and Old Fawdon Hill are considerably closer to Rome’s border than Traprain Law. It is possible the Votadini could have faced serious repercussions with the re-inhabitation of Yeavering Bell. The concentration of hundreds of Votadini within 60 kilometers of the Roman border could have been perceived as a threat, inciting potential violence. Although seasonal visitation of Yeavering may have been tolerated, re-inhabiting the site en masse may have invited unwanted Roman forces. Another explanation is that of social bonds. If the population was redistributed under the Pax Romana, the Votadini had one to two generations in which to marry, have children, build homes,

and create new community ties. After social reorganization under Rome twice, further movement of households may have felt too much like another upheaval. The settlements lived in prior to Roman occupation would have been in living memory, but the threat of further Roman intervention could have kept the Votadini at bay.

Once the Roman border is established, it might be expected to see the Votadini population consciously move away from the border. This does not appear to be the case. The nearness of occupied hillforts does not change between eras. However, as more of the population is distributed farther south in the RIA, the RIA Votadini are on average living a similar distance from what becomes the Roman/Celtic border as their ancestors. Perhaps this may also support the notion that the tribe was interacting peaceably with the Romans, as the southern third of the landscape could reach the Roman world with one to four days of travel on foot.

The distribution of the population in the RIA is much more even across the landscape than in the IA. Considerably fewer settlements can be seen with under 8 roundhouses. The question is why? Are communities in this period naturally coalescing out of a growing sense of social cohesion? This is possible; however, the erection of barriers, walls, and fences to divide what was once communal space may paint a different picture. If we are considering a potentially forced relocation of the Votadini populace by the Romans, then a number of people would find themselves removed from their homes and introduced into new communities. One would have to re-navigate a sense of place and identity within these new settings (Kamash 2014, 688).

It could be that these transitions led to the desire to carve out one's own space within the hitherto unfamiliar community, potentially in the early days of hillfort re-settlement. With the abandonment of population centers, and even, middling density of population across the landscape, it is reasonable to assume forced redistribution may have led to tenuous relationships

within communities. The even RIA population distribution is a notable difference from the few dense pockets and otherwise sparsely populated forts of the IA. We seem to be looking at a form of standardization, perhaps as both out of Roman implementation and a natural amalgamation of settlements. Probable Roman impact is further justified when considering the emerging nuclear family unit becoming more prevalent. With Roman authorized redistribution, people could have been taken from their extended family units. They may have been forced to make new relations and new social ties. Breaking up the traditional family units and relocating individuals into new communities explains the new familial unit seen in the RIA. Internal barriers and fences would have divided the community while tensions were settling and new social bonds were forming. Social structure from the family to the community was evidently changing considerably within the RIA. Further, any Votadini men conscripted into Roman forces and any entered into the slave trade would have been relocated south of the Wall as Roman forces retreated. As Kamash discusses, Roman implemented “reorganization of the landscape would have been unsettling periods of upheaval and disruption that would have required significant social renegotiation of the landscape” (2014, 688). Roman occupation may have been brief to our minds, but two entire generations saw their lifeways drastically altered. The Votadini would certainly have had to re-navigate their sense of self within new communities, missing family members, and a changed landscape as a border tribe.

7: Conclusions

Through regional analysis, I have worked to synthesize evidence for settlement patterns, use of space, and movement across eras. The work conducted for this project has analyzed regional hillfort settlement trends from the IA to the RIA. By examining RIA regional hillfort

re-inhabitation, settlement size and complexity, site clustering, landscape movement, and feature mapping, a shifting landscape is evident. In the RIA, evidence has shown that the Votadini abandoned their centers of social and political power, distributed evenly across the landscape necessitating overall longer routes of travel, intensified stone construction, began rectilinear traditions, erected barriers within the community to denote personal and public space, and shifted from extended to nuclear familial units. All of these shifts in the social and political landscape can be explained by forced annexation, redistribution, and direct influence by the Romans. Until the fall of the Roman Empire, the Votadini clearly altered their political, social, familial, material, and identity landscape.

The Iron Age to Roman Iron Age landscape of the Votadini saw considerable changes in settlement patterns, politics, distribution of the population, community structure, familial units, use of space within and without hillforts, and travel. A changing Votadini is evident. After mass abandonment of hilltop settlements in the late IA, the Votadini on the whole engaged in re-inhabitation of their forebears' settlements during the RIA. Yeavinger Bell has evidence for habitation right up until Roman occupation (Cunliffe 2005, 217). The abandonment of population centers is likely to have been a direct consequence of Roman control, perhaps a forced expulsion. The loss of the population center appears to have had a generational impact for the Votadini. Material evidence indicates the site continued to be visited and used, indicating a strong social memory of the abandoned center. Continued travel to Yeavinger Bell would have fostered a shared sense of tribe-wide identity. The largest of the hillforts were never re-settled, nor were existing ramparts maintained in what could have been a message of compliance.

We see a potential Roman redistribution of the native population through an even distribution and density of the population and standardizing settlements. The division of what

was once communal space inside the hillforts may be attributed to these newly distributed Votadini feeling compelled to denote individual households from the greater community. The shift from extended to nuclear families is another potential consequence of population relocation, cutting long-established ties and forcing the Votadini to forge new connections away from the households of their progenitors. A number of the tribe were likely to have found themselves in the Roman military or under Roman enslavement, both categories of which would be moved South of Hadrian's Wall at the time of retreat. In effect, redistribution and reorganization of the native landscape would have divided families, prevented uprisings in larger settlements, destabilized the assigned communities, and removed conscripted and enslaved Votadini from their homeland.

The evidence found points me in the direction of long-term impact from two-way Roman contact. The Votadini had a level of agency in choosing allyship with Rome, but permanent abandonment of population centers and internal divisions of public and private space point to a tenuous landscape as a result. Traditionally, this tribe and their neighbors have been watered down in archaeological assessment. To insist the tribes stayed untouched in their Iron Age ways until the medieval period is to ignore generational contact, trade, subjugation, allyship, and change experienced in the Roman Iron Age. The Votadini deserve more study, more attention, and more nuance as unique actors and reactors to being a border tribe of the Celtic-speaking and Roman worlds.

7.1: Future Directions

There are a considerable number of routes for future research. To add to the patterns revealed through this project, further study of the Votadini is warranted. This project focuses on a significant portion of Votadinian territory, but a portion nonetheless. Their territory stretched to

modern day Edinburgh. Do the noted settlement patterns apply across the whole of the tribe, or just this south-eastern portion? Synthesizing settlement patterns, use of space, and movement across the whole territory would improve the regional conclusions drawn. Further, few RIA domestic contexts have been excavated. Excavating IA versus RIA hillfort inhabitation at the household or settlement scale would lend greater insight into how material culture and use of public, craft, and domestic space may have additionally changed. From what has been found from prior field work, I believe mapping Roman goods across the Votadinian landscape would also be useful. Such mapping may reveal the degree of homogeneity or heterogeneity in Roman and Votadini interaction across communities. Therefore, I propose further research of the Votadini would be of use both through GIS and field work within this transforming landscape.

The methods of analysis used for this project are additionally applicable across Britain's IA and RIA/Romano-British Period. Mapping and analyzing features, site clustering, movement, population density, etc. can tell us how people across Britain adapted to Rome's presence. Outside of Roman-Britain, the same methods I utilized here can be applied to other tribes north of Hadrian's Wall. A cross-comparison of tribal response to Rome would be useful to our understanding. Within Roman-Britain, settlement patterns could tell us more about population distribution, community structure, and paths of movement exhibited by native population before and during Roman occupation. Understanding the Votadini in context with their surrounding native populaces, both south and west, can help us to understand an interregional view of native adjustments to Rome.

There is considerable room for further study and the British border tribes remained little understood. This project has worked to assess evidence for changing lifeways and settlement patterns of the Votadini, but their story is by no means complete.

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