

Air photographic analysis and mapping of a monastic grange at Cold Cam Farm, Oldstead, North Yorkshire

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Introduction

The North York Moors is host to several of the finest monasteries in England, including those at Rievaulx, Byland and Whitby. Influential landholders, these institutions were supported by a network of specialist agricultural holdings or ‘granges’ that had a formative (Waites 1962) and lasting impact on what has aptly been described as a ‘monastic landscape’ (*pace* Aston 2000; Bond 2004). A number of these granges have been targeted for re-assessment as part of the North York Moors National Park National Mapping Programme (NMP) Project, an air photographic interpretation and mapping project undertaken by Archaeological Research Services Ltd in partnership with English Heritage and the North York Moors National Park Authority (Bax *et al. forthcoming* 2011).

The North York Moors National Park Historic Environment Record (HER) database contains records of a total of 31 possible grange sites, which have been identified as a priority for research and management (Lee 2010). These include several of the attested and well-known sites detailed by Platt in his pioneering study of *The Monastic Grange in Medieval England* (1969), such as Griff, Newlass and Hackness. Many are situated in remote moorland locations and in consequence only a minority have received survey at any detail, with Griff Grange being a notable example (Hunt and Stone 2003). Rather, scholarship has largely focused on the documentary evidence that defines the role of granges in the economy of the respective monastic estates (Moorhouse 2003: 188). The NMP project expressly aims to provide an assessment of the historic environment resource in the most vulnerable areas of the National Park and in providing a rapid overview assessment of several of the monastic granges is laying a much needed foundation for more informed conservation and management.

Air photographic analysis and mapping has also provided enhanced knowledge of a potential additional grange located at Cold Cam Farm, Oldstead, North Yorkshire [SE 5423 8130] (Figure 1), the details of which will be presented in this short article. The site is not to be confused with nearby Cams Head [SE 537 791], a documented part of the home demesne of Byland, the location of which is confirmed by its location next to an important fish pond of the abbey (Platt 1969: 196). A sequence of aerial photography captured over the past 50 years reveals a detailed plan of the probable grange at Cold Cam Farm and provides assessment of the changing condition of the site.

Methodology (air photographic analysis and mapping)

An air photograph loan was obtained from the National Monuments Record, supplemented by the archives of the North York Moors National Park Authority. The available historic photography of the site covers the period from 1957–2009, captured by the RAF, Ordnance Survey, English Heritage, Infoterra (suppliers of Google Earth imagery) and local flyer Tony Pacitto. Further photography held in the Cambridge University Collection of Aerial Photography (CUCAP) could not be accessed owing to current closure. Likewise, additional detail may be provided in the future through assessment of photography in the Aerofilms Collection recently obtained by the National Monuments Record.

The relevant photography was systematically examined and a digital map produced at a nominal scale of 1:10000, accompanied by attribute meta-data comprising period, monument type, source evidence, photographic reference and current condition. The photographs were scanned at a resolution of 400dpi and rectified using specialist software (AERIAL 5.29). Control was derived from Ordnance Survey 1:10000 Mastermap data that has a positional accuracy of ± 2.5 m, based on 95% confidence levels. Topographic data in the form of a digital terrain model (DTM) was also employed in order to improve the accuracy of photograph rectification, which normally lies within ± 2 m of the base map; this results in a potential compound error of ± 4.5 m. The rectified images were imported into AutoCAD Map 3D 2008 and all features within the project’s sphere of interest were mapped using the conventions and standards of the NMP. Quality Assurance was provided by the English Heritage Aerial Survey & Investigation team.

The site

The site is located at an elevated height of between 200m and 250m OD and is situated on a sandstone plateau of Birdsall and Lower Calcareous Grit formation. The British Geological Survey records pockets of Oxford Clay mudstone and Ooidal limestone (BGS), several of which have been targeted by extraction (Figure 2) of medieval or post-medieval date. To the west the plateau drops to Cockerdale where several springs provide an accessible water source. The Cistercian foundation of Byland Abbey is situated *c.* 2.5 km to the southwest in the vale below; several trackways persist along Abbey Bank providing a route between the abbey and proposed grange.

Since recorded on the first edition 1:10560 scale Ordnance Survey map of 1856, the site has been partially occupied by Cold Cam Farm with the surrounding fields

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Figure 1 The upstanding earthworks at Cold Cam Farm; a south-facing oblique shot captured in 1979 (NMR SE 5481/2 02-NOV-1979 © Crown copyright. NMR)

under a combination of arable cultivation and pasture. No protection has been afforded this historic asset, through either designation as a Scheduled Ancient Monument or via an Environmental Stewardship Scheme. The site is an example where significance has been realised too late: the sequence of historic aerial photography reveals that considerable ground-levelling has occurred since 1979 with much of the upstanding earthwork remains now lost (compare Figure 1 and Figure 3). In 1997, the site came under review for scheduling; however, owing to the poor survival of the earthworks by this time it was considered to be below the threshold for designation of national significance. The site was recorded in the English Heritage Archives and Monuments in England (AMIE) national database in 2005 as part of Aerial Survey and Investigation's Reconnaissance Recording and the record is publicly available via the website PastScape (<http://www.pastscape.org.uk>). The earthwork remains are not depicted on any of the historic editions of the Ordnance Survey map and no detailed survey is recorded as having been undertaken by the North York Moor National Park HER. The NMP project is therefore providing the first detailed plan of the site.

Description

The nucleus of the site at Cold Cam Farm comprises a double ditch and bank defined rectilinear enclosure ('a') containing earthworks of building remains, a potential

crew yard ('b'), possible ponds ('c'), platforms ('d') and a number of hollow ways (Figure 2). The core of the grange is superimposed by the modern farm, obscuring and possibly destroying further elements within the northern half of the enclosure. Since captured on oblique photography in 1979 (Figure 1) the earthworks identified have been damaged including the loss of part of the enclosure's double bank and ditch and an area to the west of the modern farm buildings, which has been levelled to provide access to a barn. The remaining earthworks, mainly to the south of the present-day farm, survive to varying degrees under pasture.

The enclosure is situated within a field system identified to the south and east, extending over an area measuring at least 35.5 ha and defined by field boundaries and further trackways. Some of these have been enhanced as post medieval enclosure boundaries and are recorded on the 1:2500 scale Ordnance Survey map of 1893. One includes the boundary between the parishes of Oldstead and Byland with Wass ('pb'), which the field system straddles and is roughly aligned to on a north-east to south-west axis. The trackways are largely defined by sunken hollow ways with, in some areas, accompanying raised banks. Some are more heavily inscribed than others and this may reflect subtleties and changes in the underlying soils and geology.

Two sinuous hollow ways radiate out from the nucleus to the north-east ('e') and south-east ('f') and are interpreted as probable medieval droveways; the

course of the latter suggests a route southward towards Byland Abbey, the former potentially to pastures to the north. Multiple phases of use of the site are suggested by a contrasting straighter 'cause-wayed' track providing access to the east of the enclosure ('g'), which appears to have been enhanced by post-medieval drains.

The field boundaries form rectilinear enclosures of varying sizes, interpreted as closes or paddocks. No evidence for medieval ridge and furrow was visible on the available historic aerial photography, which may

suggest that the grange functioned as a livestock rather than arable unit. The paddocks potentially represent *bercariæ* or sheepcotes with the sheep pastured on Byland Moor; specialisation in sheep farming finds parallel at other moorland granges such as Bilsdale and Upper Eskdale (Waites 1962: 629). To the immediate east of the site the 1:10560 scale Ordnance Survey map of 1856 records an area of coniferous woodland as 'Byland Moor Plantation'. Now incorporated into pasture, deforestation visible in RAF vertical

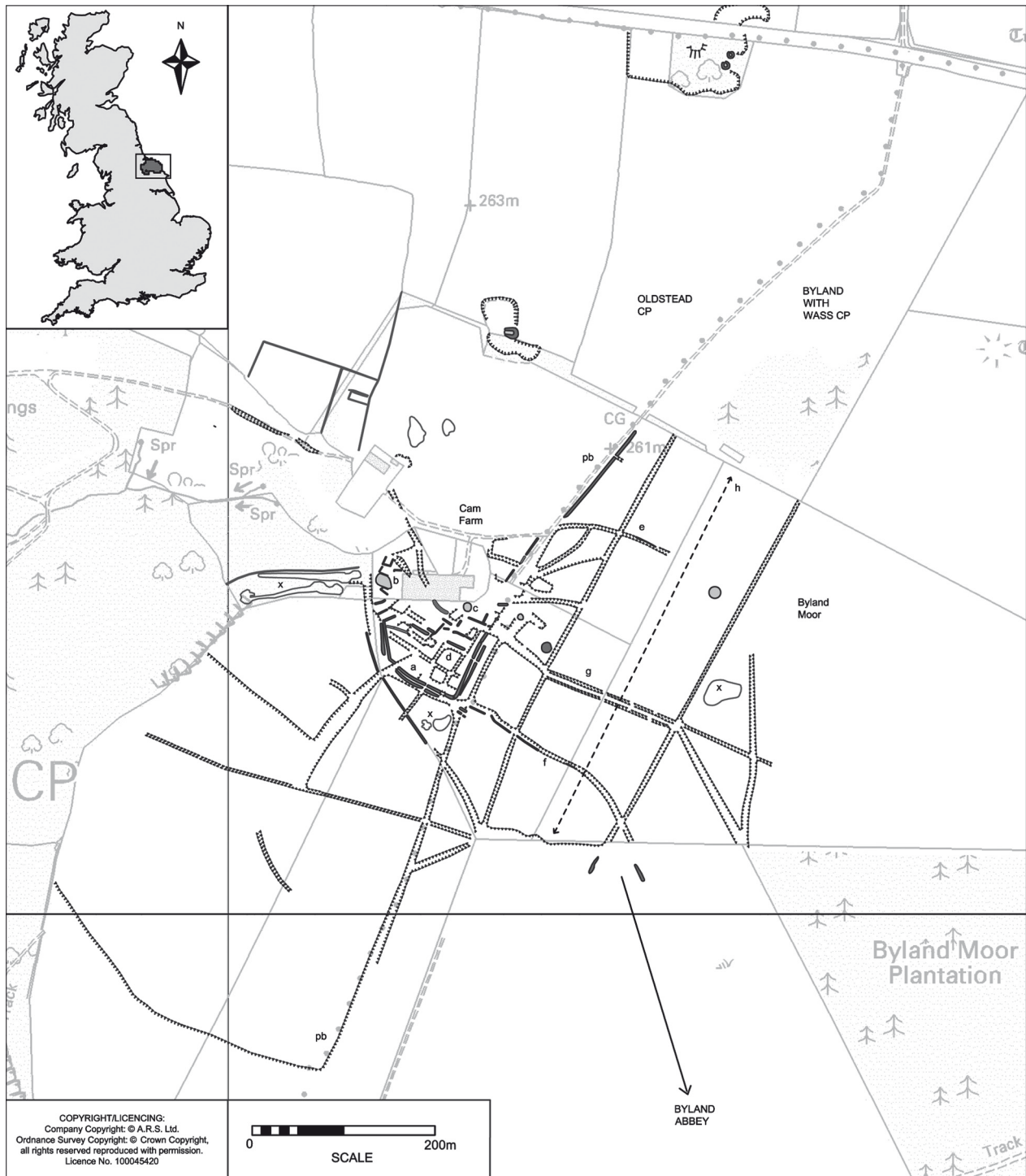


Figure 2 Air photographic interpretation and mapping of the probable grange at Cold Cam Farm, Oldstead, North Yorkshire



Figure 3 The much levelled remains at Cold Cam Farm highlighted in snow in a low-level oblique shot taken in 2003 (NMR SE 5481/11 08-JAN-2003 © English Heritage. NMR)

photography [NMR RAF/58/2131 F21 0080 28-MAR-1957] reveals formerly otherwise unimproved moorland in this area ('h').

The location of the putative grange appears to conform to the association of monastic institutions and liminal places: before medieval improvement, potentially remote and inhospitable moorland that is not recorded as having been occupied at the time of the Domesday survey of 1086 (Williams and Martin 2003). The first monastic granges were established by the Cistercians in the twelfth century and other orders followed with such farmsteads in use up until the Dissolution of 1540 (Platt 1969: 12). The morphology of the site at Cold Cam Farm suggests both medieval and post-medieval use. However, neither the air photographic record nor the historic Ordnance Survey maps provide indication of the nature of the post-Dissolution use of the site before 1856, by which time the modern-day farm of Cold Cam had been established.

Conclusions and recommendations

Historic aerial photography has provided access to elements of the probable grange now destroyed or obscured by modern activity. As a case-study, the site demonstrates the efficacy of air photo mapping for conservation and management of the historic environment. The site would benefit from further non-intrusive investigation of the surviving earthworks as well as the below ground remains, in addition to full documentary research.

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