

## AERIAL SURVEY OVER BENNACHIE THE POTENTIAL FOR FUTURE WORK

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Bennachie, sitting almost squarely in the centre of the North-east of Scotland like the hub of a wheel and recognised from all points of the compass by its distinctive skyline, has been used to guide travellers for generations. From the earliest days of aviation in the North-east, pilots have used it as a landscape reference. Seen from this high perspective the hill can begin to reveal more of its secrets. Photographs taken from the air today reveal both natural and man-made features from the past. Many of these features can suggest associations which, after recording, can then be understood better by following them up on the ground. By sorting out the natural from the unnatural and recognising how the two interact.

The most common form of detection is by cropmarks in arable fields that appear due to a variance of moisture in the soil. For example, above a ditch or pit the growing crop would have a reservoir of water below it. During periods of drought this would enable it to continue to grow and stay greener (yielding 'positive' marks) than the field surrounding it. By the same token, when growing over a wall or ancient road the crop would parch and become stunted (yielding 'negative' marks). These circumstances can create a remarkably clear image in cereal crops that can be seen in great detail from the air. However, just to confuse matters, under perfect and prolonged dry weather conditions, the marks can go through a positive to negative 'reversal' process as the crop ripens.

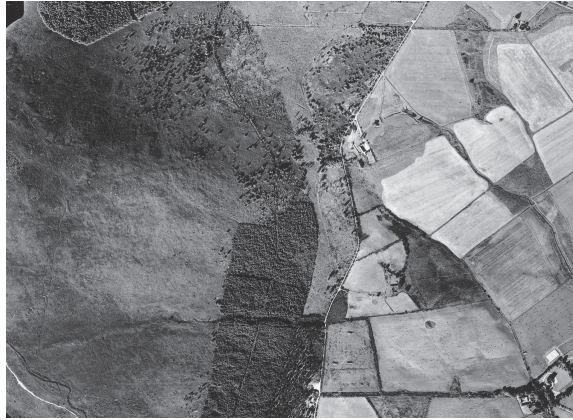
Low sunlight during the early morning or evening can also pick out uneven ground as well as cropmarks, casting tell-tale shadows of the features. A light covering of snow and frost or flooded areas of fields can also yield good results making it possible to benefit from winter surveys.

Discovering archaeological sites from the air, therefore, seems simple enough and in theory it is. Get airborne with a camera and click away. In this age of digital photography it does not even matter how many shots are taken - not like the 'old days' of 35mm film and expensive development costs. A high wing light aircraft, such as a Cessna, is preferable (or even a helicopter, if you can afford one!).

Most photographs that are taken in this way would be oblique. To take vertical shots special cameras in adapted aircraft are generally used.

Of course, to have cropmarks you need crops. The North-east of Scotland is not short of arable fields and the area around Bennachie has good potential.

But, good aerial survey results are reliant upon good weather; that is, plenty of sunshine running up to harvest time. The drier the weather the higher the chances of getting results – so, don't hold your breath! So if the weather is the determining factor in the surrounding countryside then at least the hill itself does not share that problem. However, there is the problem of heather and a very uneven terrain. No flat fields of cereals here to create a neat



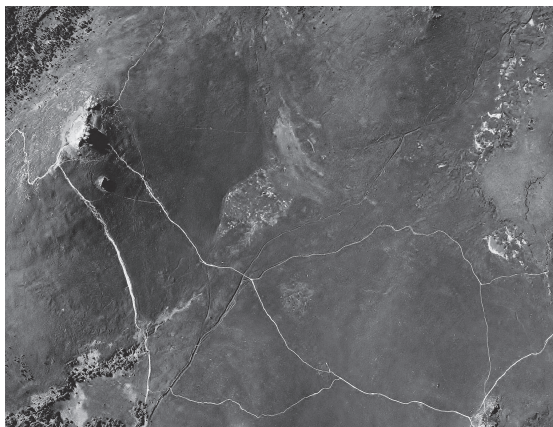
*Figure 1: Arable fields stopping along the edge of Bennachie.*

picture. But, there is still plenty to be seen (See Figure 1). One advantage of a hill such as Bennachie is that the hand of man is there laid bare by not being buried under plough soil or concrete. The past history of Bennachie is often still visible. Man has left his mark on the hill and much of it is on the surface, albeit often under heather. Aerial photographs show a good deal of this - tracks, ditches, quarries, peat workings and the hillfort(s) are all there to be seen and new features await discovery.

Aerial survey can deliver an overall picture that can be plotted and studied in detail on the ground. It can, however, tend to make the landscape appear rather flat - a misconception that rapidly becomes apparent when the subsequent ground survey is undertaken. Once features have been noted from the photographs the next inevitable question is, "are they of interest?" One half hour flight can throw up many 'maybes', so it is important to try to categorise them into a range of probables, through possibles to 'downright wishful thinking'!

So what is there on Bennachie? There is, of course, the hillfort on Mither Tap (See Figure 2). How many visitors to Mither Tap on a 'sunny' Sunday (wishful thinking again maybe) can actually visualize the defences on the ground? Then there is the access to the fort and a vast array of less noticeable features. For example,

the tracks; not only those used by walkers today, but also the lesser known ones used by peat cutters, quarrymen and travellers in the past and long lost routes that may still just be visible. Visitors today enjoy the walking for recreation but in the past tracks had other uses. They had logical starting points, purposes, and destinations. Their width and incline would depend on their purpose: narrow for foot traffic, wider and less steep for wheeled vehicles, often following contours where possible.

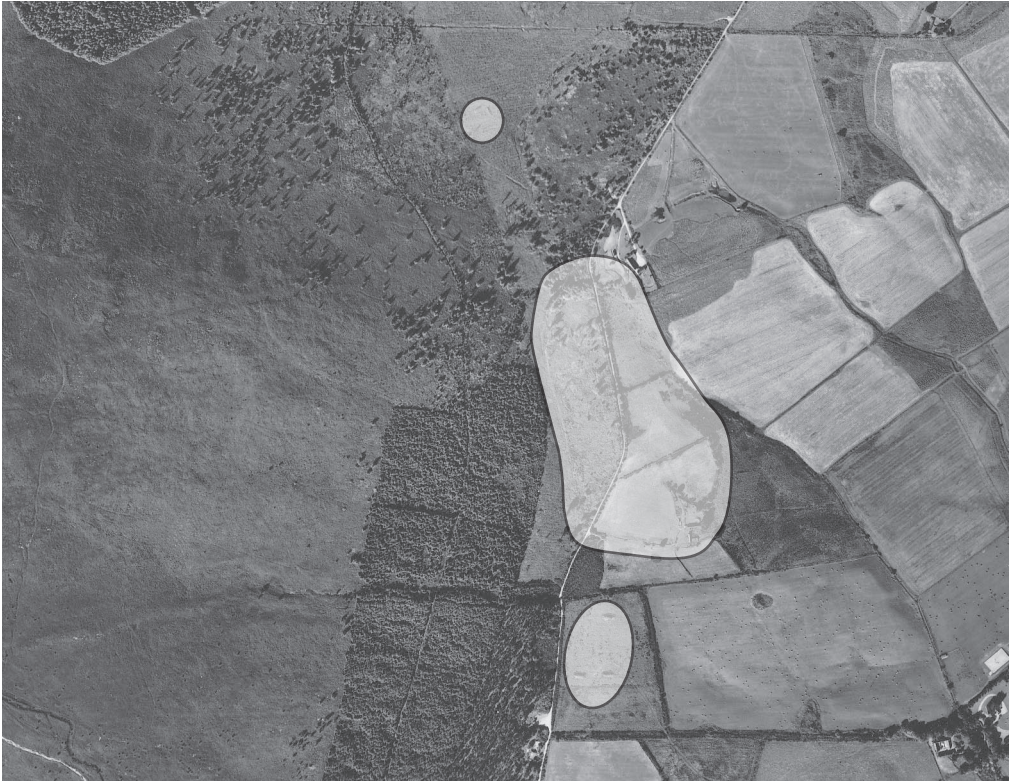


*Figure 2: Mither Tap and some of the trackways crossing the ridge of Bennachie.*

Once these trackways have been recognised their destinations can be found or speculated upon: quarries, peat cuttings, through-routes (which could lead beyond the hill itself into the surrounding countryside) and folk going about their various businesses. See, for example, ‘The Masons Journey to Work’ on the Bailies’ website. This fascinating snippet of local oral history begs many questions concerning which particular tracks the masons used.

It may be possible to answer some of these questions through the study of aerial photographs. And such a study will inevitably also pose many new questions. Quite often features appear that are not easy to relate to the landscape: ones that look for all the world to be man-made but are without any obvious purpose. Many such ‘man-made’ features seen from the air turn out to be simply the effects of nature. The weather, water, and plant growth can all paint some very convincing archaeology. Once off the hill proper into the flat arable and pasture lands of the Garioch, the possibilities are endless regarding the potential for discovering new archaeological sites.

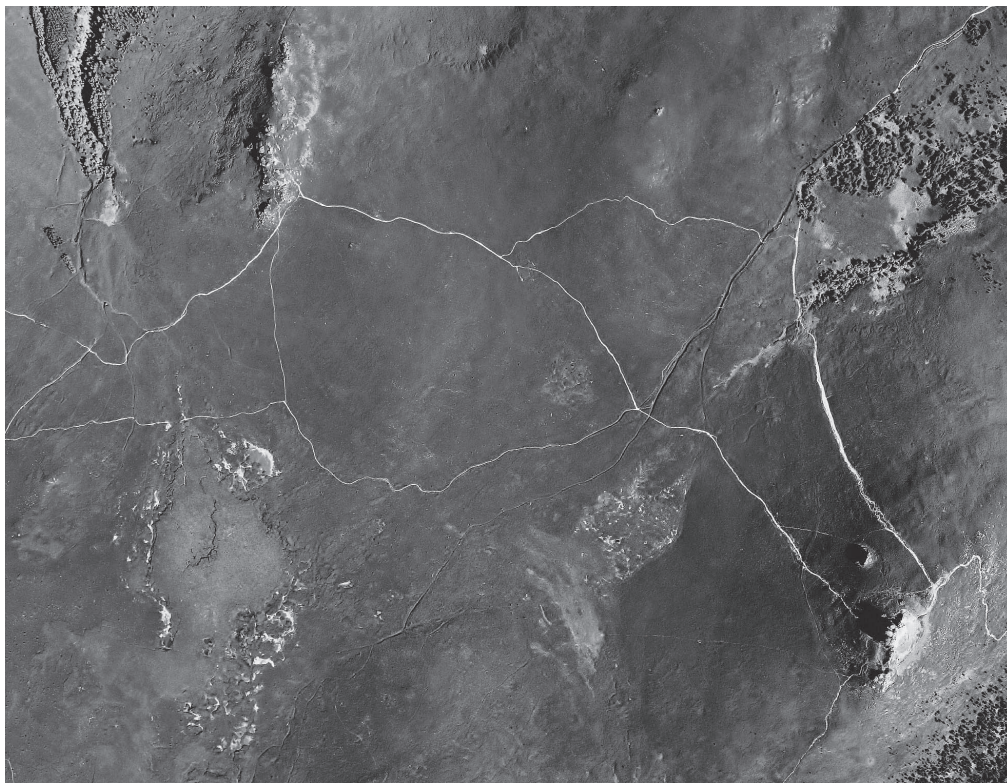
‘Bennachie Landscapes’ is in the fortunate position of having access to a series of high quality photographs taken by one of the leading aerial survey teams in Britain (the University of Cambridge) on behalf of Forestry Commission, Scotland. These images contain enough detailed evidence to keep volunteers busy for some time. Initial inspection has already identified over thirty possible features worth investigation: from good sitings to just hints of possibilities. These will be prioritised and followed up by fieldwork. As just two examples, the following



*Figure 3: Enigmatic archaeological features on the north-west slopes of Bennachie.*

photographs (noted already above) illustrate a range of sites. Some are readily categorised whilst others suggest more interesting and speculative categories of landscape features.

Figure 3 shows several obvious features: fields to the right, an area of forest centre bottom, and moorland. It also shows many not such obvious ones. Note the bank running along the bottom from the Maiden Causeway to the Turnpike crossing the middle of the image. Sometimes field boundaries can give clues to their origins. Notice the 'gourd' shaped boundary (above centre) which is a fairly common shape for a medieval deer park. Although a bit on the small size its topographical siting makes sense. Scotland was awash with royal forests and parks in the 12th century, including Bennachie, as evidenced by Gilbert (1979, 207). After the wars of Independence these increasingly fell into the hands of lesser lords, keen on emulating the noble pursuits of their royal masters. Possibly related features are the three mounds in the small field (bottom right) and the two



*Figure 4: Mither Tap and other landscape features on the ridge of Bennachie.*

mounds (top centre). These may be indicative of rabbit warrens or ‘pillow mounds’ (for a full account see Williamson, 2007). The export of rabbit skins (along with wolf skins) from Aberdeen at the beginning of the 15th century can be seen from customs accounts (Gilbert, 1979, 213). A close inspection of the ground would be required to confirm or discount these possibilities. These elements are especially interesting as both types of landscape features would be expected to form part of a more extensive ‘lordly’ landscape. Their proximity to Hart Hill (see other papers in this publication) may be no coincidence. The fields on the right of the photograph might also conceal further features that may become apparent in certain conditions, eg. at harvest time or in low sunlight.

Figure 4 shows Mither Tap (bottom right), Craigshannoch (top centre), and the moorland on top of Bennachie with the modern tracks clearly visible. Many other tracks are also shown leading to and from peat workings. The most notable of these is the light area left of centre, illustrating the regular ‘chipkey’

edges of the peat face. The area to the west of Craigshannoch is peppered with intriguing features. The Maiden Causeway coming in from the top right corner shows up well: one arm swinging round to the right towards Mither Tap with another continuing over the top and through the peat workings.

Bennachie is starting to give up its secrets, but it is only just beginning. They say that Jock o' Bennachie hid a magical key somewhere on the hill (presumably some time between lobbing rocks at Tap o' Noth and falling under a spell and sleeping on Little John's Length). Maybe we can find that key and a few others hidden on 'The Hill'.

#### REFERENCES

- Gilbert, J.M. 1979 Hunting and Hunting Reserves in Medieval Scotland,  
Edinburgh.
- Williamson, T. 2007 Rabbits, Warrens and Archaeology, Stroud.