

# THE ROMAN GASK PROJECT.

# ANNUAL REPORT: 2010.



Aerial view of Woodhead Roman watch tower, under excavation.

# The Roman Gask Project.

## Annual Report: 2010.

#### Fieldwork.

2010 saw the Project make what may prove to be one of its biggest breakthroughs to date, with the excavation of a new Roman tower that could show that the Gask frontier extended north of the Tay, beyond Bertha. We also continued our series of very large geophysical surveys, this time taking in the Roman fort of Doune. Further work was undertaken at the Inchtuthil legionary fortress, and our air photography program produced yet more new sites.

#### Excavation and survey at Woodhead.

One of the Project's long standing research issues has been the possibility that the Gask Frontier might have extended further than the 37 kilometres we currently have (Fig 1). For example, our 2008 annual report related aerial and geophysical studies of a series of candidate tower sites beside the Roman road stretching south from the southernmost known installation to date: the fortlet of Glenbank, to the north of Dunblane. In the event, the three proved unlikely to be Roman, but we still have high hopes of future discoveries in this area, if only because Glenbank seems such an illogical place for the system to end.

More recently, however, our attention has been diverted further north. Until recently it had seemed all but certain that the Gask ended at Bertha fort, which lies at the confluence of the Rivers Tay and Almond, just upstream of modern Perth. Moreover, this appeared perfectly logical. Roman frontiers often end on significant topographical features, such as rivers, coastlines or mountain ranges.



Fig 1. The Gask Frontier as currently known.

They also tend to terminate at full sized forts like Bertha, not at minor installations such as Glenbank in the south. To be sure there were additional forts heading north into Strathmore (Fig 2) and a number of - mostly 18th century - antiquarian writers claimed to have seen a Roman road running north towards Strathmore, from the Tay bank opposite Bertha, through Stormontfield and Byres. But, unfortunately, there was no modern evidence for this road, and certainly none for a Gask-like pattern of towers and fortlets resuming. Some years ago, however, local pilot Sandy Torrance photographed signs of a road showing as a crop mark, heading away from the Tay, across from Bertha. We were able to confirm the sighting soon afterwards on one of our own flights, and we have since seen signs of what may be the same road approaching the fort of Cargill further north. Whether any of this is Roman is another matter of course, but it does at least suggest that the antiquarian writers were reporting something real. Either way, however, there was little sign of Roman frontier installations. For, although a single Roman tower was known at Black Hill, across the River Isla from Cargill, that site made perfect sense as a dedicated observation outpost for the fort and so need have little if any wider significance. Nevertheless, the last few years have seen the glimmerings of evidence that we might have a more complex situation on our hands.

For some time we have been interested in a ring ditch site called Woodhead, near Wolfhill, between Bertha and Cargill (Fig 2). This was discovered from the air by the RCAHMS and appeared in the National Monuments Record simply as 'enclosure': in other words as a generic, unidentified round cropmark. Subsequent air photographs provided more context, setting the feature within a wider knot of (probably Iron Age) roundhouses, but the original feature remained very different: having a much heavier, double ditch, and looking for all the world like one of the double ditched watchtowers at the southern end of the Gask. Certainly, a better observation position is hard to imagine, with a spectacular view of approaching 30 miles of the Highland fringe, which includes the Dunkeld Gap, the strategic pass where the Tay emerges into the lowlands. Our 2006 annual report presented the results of a geophysical survey of the site, which made it appear still more like the southern Gask towers, by showing how nearly identical they were in size. The survey also suggested (but did not prove) that the ditches had an entrance break, another universal feature of Roman timber towers in northern Britain, but something that had not been detected here from the air. If the site was a tower, it could be a major breakthrough, because its location, well out of sight of Cargill, made it far less likely to relate purely to



Fig 2. Woodhead and the 1st century Roman occupation pattern.



Fig 3. Woodhead: the 2010 excavation plan.

the fort, than Black Hill. Consequently it could be the first real hint that a Gask style system did continue further north. But the remote sensing data, however tantalising, was not strong enough to permit certainty by itself. The site simply had to be excavated. 2010 saw a break in its usual cereal cultivation and excavation took place, with the kind permission of the Stathallan Estate and the farmer, Mr Croal, whose constant interest and kindnesses throughout our time on the land were very much appreciated. The site proved to be better preserved than anticipated, with features, such as an internal hard standing surviving, and not just the deeper ditches and postholes. As a result, despite a difficult clay subsoil that formed concrete on dry days and soup in the rain, good results were obtained.

Before the excavation there had been a number of possible alternative identifications for such a site, including a prehistoric farmstead, a barrow, or even a more recent windmill.

No trace of roundhouse foundations was found, however. Nor were there any signs of a burial pit or cist, and dating evidence detailed below rules out a post-Roman date. On the other hand, the excavated remains were fully consistent with a Roman watch post (Fig 3), almost identical to the southernmost four Gask towers. The double ditches did indeed have a Roman style single entrance break, and their widths, depths, diameters and V shaped profiles all match the Gask. There were quantities of redeposited turf in the ditch fills, which suggest that there may have been an internal rampart, in Gask tower fashion (although nothing had survived in situ) and the hard standing just mentioned also fits the pattern. The central post built structure fits perfectly into the size range known from Roman timber towers elsewhere and, although it was oriented to face c. 15° anticlockwise of the ditch entrance, this too is surprisingly common. Indeed the only unusual aspect of the building's design was the fact that it showed five postholes, rather than the usual four: with two posts set fairly close together at the NW corner. At first it was assumed that this was a sign of more than one structural phase, something also seen on the Gask. But this proved not to be the case and, as far as could be determined, all five posts belong together. Roman towers with more than four posts are hardly unknown, with six and occasionally 12 post examples on record, but odd numbers of posts are almost unprecedented. Yet there is one known parallel: the nearby tower at Black Hill, and the fact that the two neighbours share such a rare design feature may be another suggestion that they form part of a unified series. No datable artefacts were recovered from either site, but carbon samples from Woodhead allowed a C14 dating to the 1st century AD, or the late 1st century BC. Assuming that the

two are indeed Roman watch posts, therefore, it seems probable that they belonged to the 1st century, Flavian occupation, rather than the mid 2nd century Antonine, or early 3rd century Severan occupations. In other words, these sites seem likely to have been associated with the Gask chronologically, and probably organisationally. Whether or not they represent a full scale continuation of the system is another matter, and remains to be seen, but our air photographic program will certainly be giving the area still more detailed scrutiny in future, to look for more such sites.

#### **Geophysical Surveys.**

For some years, the Project has been conducting a series of very large geophysical surveys, taking in entire Roman forts and their surroundings. Ultimately we plan to cover all of the forts to the north of the Forth-Clyde Isthmus for which the owner's consent can be obtained, except for Camelon, which lies on a busy golf course, and Ardoch, which has already been covered by the University of Glasgow. This year saw our twelfth such survey, at the fort of Doune, in partnership with Oliver O'Grady, formerly of our sponsors: Perth & Kinross Heritage Trust. We also continued last year's work at the legionary fortress of Inchtuthil, in collaboration with Peter Morris.

#### Doune.

The Roman fort of Doune lies a little to the south-west of the Gask line as currently known. It was found from the air by the RCAHMS on a plateau high above the River Teith, but it has only ever shown poorly. There have been several excavations, mostly in advance of extensions to a primary school, whose buildings and playing fields overlie much of the interior. And, although none of these have yet been properly published, notes that have reached print are sufficient to show that the site belonged to the Flavian occupation. It does not seem to have been reused in the Antonine or Severan periods, but whether it formed an integral part of the Gask line proper remains to be seen. Internal



Fig 4. Doune: the 2010 magnetic survey.

buildings, such as barracks, have been excavated, but even basic issues such as the site's size and orientation remained uncertain. The survey, sponsored by Historic Scotland, was designed to address these issues and provide as much information as possible without damaging surviving stratigraphic deposits. It was also designed to provide valuable context for the existing excavations and for others that are planned for the near future. Parts of the site have been built up by housing, in addition to those lost under the school, but a little over 8 acres (3.2 ha) were scanned: this being the entire available fort area and an addition piece of ground to its east. Both magnetic and resistance techniques were employed and a small area in the fort's south-east corner was also covered by subsurface radar as an experiment.

Conditions on the site were excellent for resistance work, but less so for magnetometry. Much of the available land is now used as playgrounds and playing fields, and myriad small ferrous objects (from ring pulls to football boot studs) have accumulated in the soil to form a low level magnetic jamming field over the entire site. Worse still, wire and chain link fences around the school grounds, coupled to metal manhole covers and buried pipes and cables, caused more serious (if more localised) interference, especially in the playground in the north-western part of the survey. Nevertheless, much valuable data was obtained (Figs 4-6), of which, perhaps, the most important was the discovery of the fort's south-western rampart and gate. The SE gate had been seen from the air: the only gate to be detected in this way but, as such things tend to be symmetrical and excavations some years ago had cut part of the NW defences, the opposite gate position could be extrapolated with confidence.

Roman forts generally had four main gates, set in an essentially rectangular defensive circuit with rounded corners. Usually, the gates in the short axis were set centrally, whilst those in the long axis were off centre, often roughly a third of the way along. Doune's NE corner was visible from the air and, although there was just room between the SE gate and the almost sheer drop down to the river at the southern edge of the plateau for a symmetrically opposite corner, there was little room to spare to allow this side to be significantly longer (unless we assume that the plateau has been eroded back



Fig 5. Doune: the 2010 resistance survey.

more than seems plausible since Roman times). It thus seemed likely that the SE and NW gates lay centrally on the fort's short axis. That meant that the fort's orientation depended on the missing SW and NE gates. Roman forts had a definite front and rear, which can usually be determined from the position of the long axis gates. These were linked by an internal road called the *Via Principalis*, which (as the gates were off centre) divided the fort into two unequal sections. The shorter of the two, the *praetentura*, was the front and is usually thought to have been set so as to face the direction from which any enemy seemed likely to come. In the case of Doune, this might have been expected to be the NW, towards the Highlands, but the excavations had not provided enough data to be sure.

The geophysical results removed all ambiguity. The south-western defences are now proven, and do indeed follow a line that would put the SE gate on the short axis centre line. The resistance survey showed the NW gate to be almost exactly where it had been predicted, whilst both the magnetic and resistance work revealed different aspects of the SW gate and a short stub of road emerging from it. Contrary to expectations, this lay about a third of the way from the fort's east end, not the west, so the site faces 123° east: more or less straight down the Teith valley, and almost exactly towards the hill that now carries the Wallace Monument, above Stirling where another Roman fort has long been looked for. This, in turn, allows us to forecast, with confidence, that the NE gate will lie in and around the road entrance to the school grounds. Moreover, it should be possible to test this prediction next year, for the area currently includes a house for the caretaker, but there are plans to demolish it to make room for an extension to the school, with excavation as part of the process.

The Gask Project is occasionally teased by colleagues for our insistence that our large scale geophysical surveys should include both resistance and magnetic coverage. After all, we are told, magnetic surveying is so much quicker than resistance, and surely the two produce much the same picture. Doune has shown, yet again, that this is wrong, however. For example, the resistance data provided a dramatically better image of the ditch system. We were able to confirm the aerial and



Fig 6. Doune Roman fort: aerial and geophysical results.

excavation evidence that the fort had a triple ditch, something rare in this area. And we can now go further because it appears that all three pass right around the site, whereas the closest parallel, Cargill (Fig 7), has three ditches on only part of its circuit. The Doune magnetic survey, on the other hand, failed to find the two inner ditches, although for some reason the outer still showed strongly, but it did provide a clear trace of the rampart. Consequently, it is now possible to provide firm dimensions for the site: something that could not have been done from either survey alone. The fort is 180m (NW-SE) x 160m (SW-NE) over the outer ditch, an area of 2.8ha (6.9 acres). It is 161m x 141m over the inner ditch (2.2ha), and 150m x 126m over the rampart, which (allowing for the rounded corners) gives an area of 1.88 ha (4.6 acres). It is thus slightly smaller than we had anticipated, and towards the smaller end of the size range for 1st century forts in this region, albeit not unusually so.

The resistance survey also confirmed aerial hints that the outer ditch tuned inwards on either side of teach entrance, to form what have been nicknamed 'parrot beak' gates. These are a common characteristic of 1st century forts in the north, but only one triple ditch parrot beak system had been known before: again at Cargill. There the middle ditch did not turn in; it simply continued on until it met the in-swinging outer ditch. But, as no parallel was known, it was impossible to say whether that arrangement might be typical, and it was useful to see the same pattern repeated at Doune. Moreover, the Doune magnetic data showed another feature that our geophysical and aerial work elsewhere suggests might be a standard characteristic of parrot beak gates: an inward swing of the ramparts on either side of the entrance, so that the gates themselves would sit at the end of a re-entrant. The two features make obvious tactical sense when used in combination. For they would create what amount to funnels that could be all but guaranteed to cause confusion amongst even a well ordered rush on the gates. An attacking force would have been able to pass through the outer ditch on quite a broad front. But it would then find itself rapidly compressed as the outer ditch swung in towards a much narrower inner ditch break. Some of its outermost members might even be pushed into this ditch, but the others would be forced inwards, causing confusion in the ranks at a time when they would already have been



Fig 7. Cargill: Aerial and geophysical data.

under fire from the fort. They would next pass down the rampart re-entrant, becoming still more compressed and disordered, to an entrance just c. 6m wide, and would there be faced with the barrier of the gate itself, whilst under enfilading fire from the rampart funnel above and with their escape route blocked by their own comrades surging on from behind. The result would be a killing ground and the funnel would have become a trap, although how much extra defence the third ditch would offer over the more usual twin arrangement is less certain.

No internal buildings were detected by the larger scale geophysical work, but there are hints of a structure towards the SE corner in the small scale radar test. The magnetic work did, however, reveal linear features that probably represent parts of the *praetentura*'s internal street system. The resistance survey, on the other hand, picked up the intervallum road, with a series of small circular features set in the rampart back alongside it, especially towards the SE corner. The latter probably represent rampart ovens. Excavations towards the western end of the fort were able to study a group of such ovens in detail some years ago, and our resistance survey at Cardean, in Strathmore, picked up similar structures.

A number of external features were also detected. Firstly, the magnetic survey revealed a linear feature branching off the fort's outer ditch at the SE gate and heading down a gully towards what is now the site of Doune Castle (Fig 4). It is not impossible that this represents the ditch of an annexe attached to the fort, such additional enclosures being quite common in the region. But it runs very steeply downhill and it remains equally possible that it marks the track of the fort's main drain. Finally, both surveys detected a little knot of at least six small circular features towards the edge of the plateau to the east of the fort's NE corner. Quite a number of our previous fort surveys (e.g. Cardean, Cargill and Inverquharity) have revealed external Iron Age settlements, some of which might even have been contemporary with the Roman occupation, and it is possible that this may be another, albeit no dating evidence is available at present.



Fig 8. Plan of the Inchtuthil plateau.

#### Inchtuthil fortress.

Last year we reported on the first stage of our truly vast geophysical survey of the legionary fortress of Inchtuthil. The fortress itself (Fig 8, I) is a little over 50 acres, but it stands above the Tay, on a wider plateau of approaching 200 acres, which also contains a (probably post-Roman) Iron Age promontory fort (Fig 8, IV) along with number of other Roman fortifications. The eventual hope is to scan almost the whole of this area, which will make it one of the largest geophysical surveys ever conducted in Scotland. 2009 had seen ourselves, and Peter Morris, of Blairgowrie Geoscience, covering close to 100 acres of magnetic survey (including most of the fortress), plus a smaller (but still huge) area of resistance work, and we had hoped to complete most, if not all of what remains to be done this season. Sadly our plans had to change for agricultural reasons, but we were still able to do a good deal of useful work.

Firstly, there is a small Roman fortified enclosure to the east of the fortress, to the north of the modern pathway onto the site (Fig 8, V). This has been partly eroded by the river and can look small and somewhat inconsequential on plans of the site. But this is only because it is so dwarfed by the fortress, and it is actually a major fortification in its own right: the size of a normal Roman fort. Its function remains unclear. It has been variously christened the 'Redoubt' and the 'Stores Compound' by previous workers, but only really for something to call it and not as a genuine attempt to assign it a role. It is certainly Roman, but little more could be said. One attempt had been made to examine it, during the late Sir Ian Richmond's long program of excavations on the fortress in the 1950s and 60s. A



Fig 9. Inchtuthil: 'Stores Compound' magnetic survey.

few small trenches were opened inside the defences, but no signs of structures were detected. The enclosure lies in woodland, however, and tree roots make life very difficult for an excavator, so this blank could only be regarded as provisional, and given the remarkably clear picture obtained of the internal fortress buildings by the 2009 magnetic coverage, there seemed to be a very real chance that the same technique could be used to find internal details in the 'Stores Compound' too. The area becomes almost impenetrable in summer, but the dense undergrowth dies back enough in winter to allow access, and in February 2010 Peter Morris undertook a magnetic survey (Fig 9). Even then, the trees, and a considerable

Rhododendron thicket prevented total coverage, but he still covered more than we had dared hope. The defences, which remain visible on the surface, showed beautifully, as might be expected, but the only thing revealed in the interior that appears likely to be structural, was a series of parallel linear features. Some of these, at least, can be seen passing through the enclosure's western rampart, so they are hardly likely to represent Roman internal buildings. They are more likely to mark rig and furrow ploughing, or fairly modern drains. The only other features visible are a substantial oval, around 30m long - which seems equally unRoman - and part of a faint, c. 100m long, rectangular enclosure, which again passes through the defences, and so cannot be contemporary. It thus seems possible that the excavation's failure to find internal buildings reflects the real situation, not just the difficulties of excavation in woodland. We must stress that this remains far from proven but, even so, it may be worth speculating as to what purpose such a large, but empty defensive enclosure could have served. We might for example, suggest a fortified wagon park, a secure pen for holding the legion's large numbers of horses and baggage animals, or a construction or demolition base for the fortress itself, designed to contain tented accommodation. But all this is just speculation and it is to be hoped that future excavations might allow greater certainty.

At the opposite end of the plateau is a large, multi-phased temporary camp (Fig 8, II), roughly the same size as the fortress, along with what had appeared to be a much smaller Roman camp (8, III). But Peter Morris was also able to subject most of the latter to magnetic survey, before it vanished under a game cover crop, and the results are particularly interesting. The site was discovered from the air, and nothing remains visible on the surface. It shows only rarely and faintly, but its morphology: a single ditched rectangle with rounded corners, did seem to make an identification as a small Roman temporary camp all but definite. That said, only three of the four sides had ever been seen (interpolated plans such as Fig 8 above notwithstanding) and no entrance breaks could be discerned on the remaining sides. Given the poor aerial images, it seemed safe to put this down to the luck of the available data, however, rather than to the reality of the site itself, but the geophysical results belie this. The west, south and most of the northern sides show far more strongly than in any air photograph (Fig. 10), yet there is still no trace of an east ditch, nor of any gates through the other sides. It will be interesting to see if a resistance survey will confirm this, because resistance does tend to be better at detecting ditches but, even so, the data appear unequivocal and one is tempted to wonder, at the very least, whether the site was ever completed or, indeed, whether it is a Roman camp at all, rather than a more modern enclosure of some sort.



Fig 10. The Inchtuthil small 'camp': magnetic survey.

At the same time, despite frozen ground and bitter cold late winter weather, our program of metal detecting outside the fortress continued. The purpose of this work has been to recover artefacts from the ploughsoil (only) which are by definition removed from any stratified context and which would otherwise simply be destroyed by continued erosion through cultivation. We are withholding the find distribution plans for the time being to avoid giving assistance to night hawks, but two factors have become apparent from the cumulative 2009 and 2010 results. Firstly there is a very substantial amount of lead working debris from outside the fortress, which suggests a significant industrial quarter. Interestingly, there are 18th century accounts of local lead working, from a vein on nearby Birnam Wood: a substantial hill at the mouth of the Tay gorge, opposite Dunkeld. The particular significance of this ore is that it was argentiferous: in other words it contained silver, which could be extracted by cupellation. The Roman army is known to have made a particular point of seeking out and exploiting (or managing the exploitation of) precious metals, often so quickly after the conquest of an area that one wonders whether the locating of such resources may have been a priority for pre-conquest intelligence work. Such metals were, after all, the foundation of the imperial coinage. If any part of the Birnam lead vein survives, and we can find it to take samples, it should be possible to compare them to the lead being recovered from Inchtuthil to see if it really was the local ore that was being worked. But for the moment this is just a fascinating possibility.

The second significant find, is a substantial and growing body of coinage. The site has seen several excavation series, under Abercrombie, at the start of the 20th century, Richmond, in the 1950s and 60s, and Barclay & Maxwell more recently, but it had yielded only a handful of Roman coins. The Gask Project work has quintupled this body to almost 60, thus making it one of the very few Roman sites in Scotland with an assemblage that might be considered statistically significant, and the material is being studied by Prof David Shotter of the University of Lancaster. The only other site in the north with a similarly large corpus and which, like Inchtuthil, also does not seem to be contaminated by later Antonine, Severan (or even late Flavian) activity is Elginhaugh, to the south of Edinburgh, and if the issue dates of the coins from both sites are plotted (Fig 11), they are remarkably similar, albeit Elginhaugh has a rather higher proportion of Vespasianic coins, and fewer from the later



Fig 11. The issue dates of the Roman coins from Inchtuthil and Elginhaugh (by percentage).

Flavian Emperors: Titus and Domitian. Interestingly, Elginhaugh also produced a coin hoard, but this has a radically different range of issue dates. There were still Vespasianic coins, although almost none from any other emperor, but the majority belonged to the Roman Republic, and some would already have been centuries old when deposited in Scotland in Flavian times. One final surprise from Inchtuthil is the possibility of a coin of the Emperor Nerva, whose short reign (96-98AD) came after the 1st century occupation of northern Scotland had ended. It is too early to read much into this as yet, however. For although it might open up the possibility of Antonine or later Roman activity on the plateau, the coin was found in very poor condition and the Nervan date might still be open to question. Even if confirmed, moreover, it might reflect a native, a Roman trader, or even a modern loss, rather than an active Roman military presence.

Finally, there has long been doubt as to which side of the Tay the fortress lay in Roman times. At present the river runs to the south of the plateau, and despite considerable changes in course, it has done so since the first large scale maps of the area were produced in the late 17th century. There is little doubt, however, that the river does sometimes switch to the other side of the site. There are lines of ox-bows around the northern and western foot of the plateau (Fig 12), and erosion scarps on the north side of the valley. Most significantly, a considerable length of the fortress' northern defences (Fig 8) have been eroded off, which means that the river has run here since the site was built. The question is, did it do so in Roman times? This is of more than academic interest, for it reflects on the tactical, and possibly the strategic position of the site. It is common for legionary fortresses to lie beside major rivers, notably the Rhine, Danube and Euphrates, and they almost always lie on what might be thought of as the Roman bank. At present, though, Inchtuthil stands out as an anomaly, on the enemy side, but if the Tay flowed to the north of the site in Roman times, we would have a more conventional position. At the same time, if we really are finding signs that the Gask line ran beyond Bertha, we cannot but wonder where it might ultimately be heading. One of the strange aspects of Inchtuthil as currently understood is that there is no sign of a Roman road towards it. The emerging possible road extension from Bertha towards Cargill might form a logical route towards a fortress lying north of the Tay, just as a modern traveller from Perth can reach Inchtuthil via Guildtown, Cargill and Meikleour. But, a site to the south of the Tay might be better reached by a more direct



Fig 12. Oxbows and erosion scarps around the west (foreground) and north sides of Inchtuthil.

route along the Perth side of the Tay, via today's Stanley and Murthly. The more we learn about the entire system hereabouts, the more important it becomes that this matter should finally be settled, and we needed to interest an expert in fluvial processes. We have now had the good fortune to team up with Geomorphologist, Dr Wishart Mitchell of the University of Durham, and it will be fascinating to see what he finds.

## Air Photography.

Thanks to a wet summer, 2010 proved a disappointing cropmark season but, in compensation, we did get some excellent results photographing the hills in early spring (especially the Ochils), when starkly angled sunlight and a light dusting of snow showed up features that would normally be all but invisible. We made a single late summer flight, to photograph our Woodhead excavations and search for any neighbouring features and, despite the conditions, this picked up what may be another new length of Roman road between Bertha and Cargill, which at least bodes well for better seasons in the future. We also got an unexpectedly glorious view of Cargill fort and its annexe showing (against the trend of the season) with spectacular clarity as so called 'shimmer marks' in fully ripened barley. In all we found 42 entirely new sites during the year, ranging from pits, to roads, to roundhouses and there were many new details on known sites. We also took a series of pictures to show the former river channels around Inchtuthil to help Wishart Mitchell's work just referred to, and we plan to take more next spring, when the area should provide visible soil marks. On the ground, we have kept the cataloguing of our archive up to date, which now contains over 13,000 air photographs.

### **Publications, outreach and publicity.**

Our outreach program this year provided opportunities for hands-on experience in both excavation and geophysical survey or, for the less active, just the chance to visit our archaeological work in progress: and Woodhead, in particular, received numerous visitors. The dig was manned



Fig 13. Cargill Roman fort, from the air, with the River Isla in the foreground.

about half and half by local volunteers and our own regular team. The Doune and Inchtuthil teams were entirely local, apart from ourselves and, at the latter, we were lucky to have another opportunity of working with Paul Smith and his network of disciplined archaeological metal detectorists. We were also joined by our long-standing volunteer and former student Dan Boddice, who conducted research for his Masters thesis into the effect of different probe arrays on resistance surveys, whilst re-surveying Woodhead in advance of the excavation.

As usual, the Directors have given lectures to a range of academic, student and amateur bodies, in addition to our normal teaching. As always, we made particular efforts to speak in Perthshire and its surroundings, with talks at Innerpeffray, Forfar and Glasgow, and both of us lectured in Perth. We also took a guided tour around Inchtuthil for Perth Archaeology Month, the high point of which was a display by Roman Army re-enactment group the Antonine Guard. As always they put on a very professional demonstration, and just to see Roman soldiers on the site for the first time in almost two millennia, was a surprisingly moving experience. Elsewhere, we gave lectures in Liverpool, Manchester, Leicester and Stockport. Both directors gave papers to the annual Roman Army School in Durham, and media activity continued, with David joining the heritage team dealing with press and TV during 'Illuminating Hadrian's Wall', a high profile exercise to pass a beacon signal from one end of the Wall to the other, which was of obvious interest, given David's research on Roman signalling.

The year also saw a number of publications. Our excavation report on the Gask fortlet of Glenbank appeared in PSAS, along with reports on the three sites already mentioned to the south, that had appeared as possible tower candidates, but which our geophysical work had shown to be indigenous. Birgitta meanwhile published three different glass studies, for sites in three countries, on two continents. There was one on the material found by the late Charles Daniel's excavations in the Fezzan, in Libya. One was on the glass from the vicus outside Rainau-Buch fort on the Limes in Germany and the third was for the vicus at South Shields, behind Hadrian's Wall. Other works went to



Fig 14. Volunteers at work at Woodhead, with the spectacular view to the Dunkeld Gap beyond.

press for publication next year, for example a re-evaluation of the evidence for the foundation date of Elginhaugh fort, an interim report on the Inchtuthil survey, and the publication version of David's paper to last year's International Congress of Roman Frontier Studies, on the role and anatomy of Roman towers. Other reports were written during the year but will not be published for some time, notably that for Doune, which will form part of the book we have been commissioned to produce, in which all of our fort surveys will appear together.

#### Sponsorship and Acknowledgements.

The Project continues to be sponsored by the Perth & Kinross Heritage Trust, whose support has, as always, been both indispensable and deeply appreciated, and all the more so in what are difficult economic times. In 2010 the Trust funded our air photographic flying program and the Woodhead excavation. We are also grateful to Historic Scotland for the generous grant that paid for the Doune survey, not to mention their practical help in expediting the Scheduled Monument consent for Woodhead. Meanwhile our long standing corporate sponsor (which continues to insist on anonymity) provided two new laptop computers on long loan. These have greatly speeded the field processing of data from our increasingly large geophysical surveys, which had become a painfully slow business on the more antiquated equipment we had been using before. We have also received a number of smaller donations from speaking engagements, voluntary bodies and private individuals and, as usual, the royalties from our books have gone to the Project's research, as has David's TV fee.

The Project owes thanks, as always, to the farmers and land owners who have allowed us access to sites, and to Peter Green who does a wonderful job of maintaining our web site. Bill Fuller has continued in his indispensable role as pilot on all of our air photographic flights, and he also does a great deal of work turning David's air photo identifications into a proper computer searchable database. As already mentioned Peter Morris, Oliver O'Grady and Dan Boddice have partnered the Project on different aspects of our geophysical work and we must congratulate Dan, who passed his MSc in



Fig 15. The Antonine Guard at Inchtuthil.

geophysics at Bradford with flying colours during the year, and won a funded Ph.D place at the University of Birmingham. As always, we are grateful to our many field volunteers, especially our long-standing geophysics and dig supervisory team: Rachel Hunt, Paul Murdoch, Keith Miller and now Tony Simpson. It was also a huge pleasure to welcome back one of our longest standing team members, Mike Murphy, who had not been able to join us for some years.

### The Future.

2011 should see another in our series of whole fort geophysical surveys, hopefully Malling on the Lake of Menteith. We also plan to conduct a second full survey season at Inchtuthil and to survey an enclosure seen from the air last autumn which just might be a new Roman site. Our flying program will continue, hopefully with better summer weather, and an excavation target will no doubt emerge.

Out of the field, we plan to write up Woodhead and prepare more of the geophysical work for the book. We also hope to finish the report on our multi-season excavation at the Iron Age site of East Coldoch. Birgitta's book on the military history of Roman Britain should appear (which will of course include the Gask), as should her long awaited book on Cardean. We have been asked to write an interim piece on our continuing landscape survey of the Iron Age environment and settlement pattern around Inchtuthil, and both of us will again be writing papers for the Roman Army School. The Directors will continue to give public lectures where invited. Talks have already been arranged in Perth, Manchester and Weaverham, and more will no doubt be booked as the year goes on. All in all it should be another busy year and, as always, we are eager to start.

> D.J. Woolliscroft and B. Hoffmann. Directors: The Roman Gask Project. SACE. University of Liverpool.

Our previous annual reports and completed research papers can be viewed free of charge on our Web site at: www.theromangaskproject.org.uk