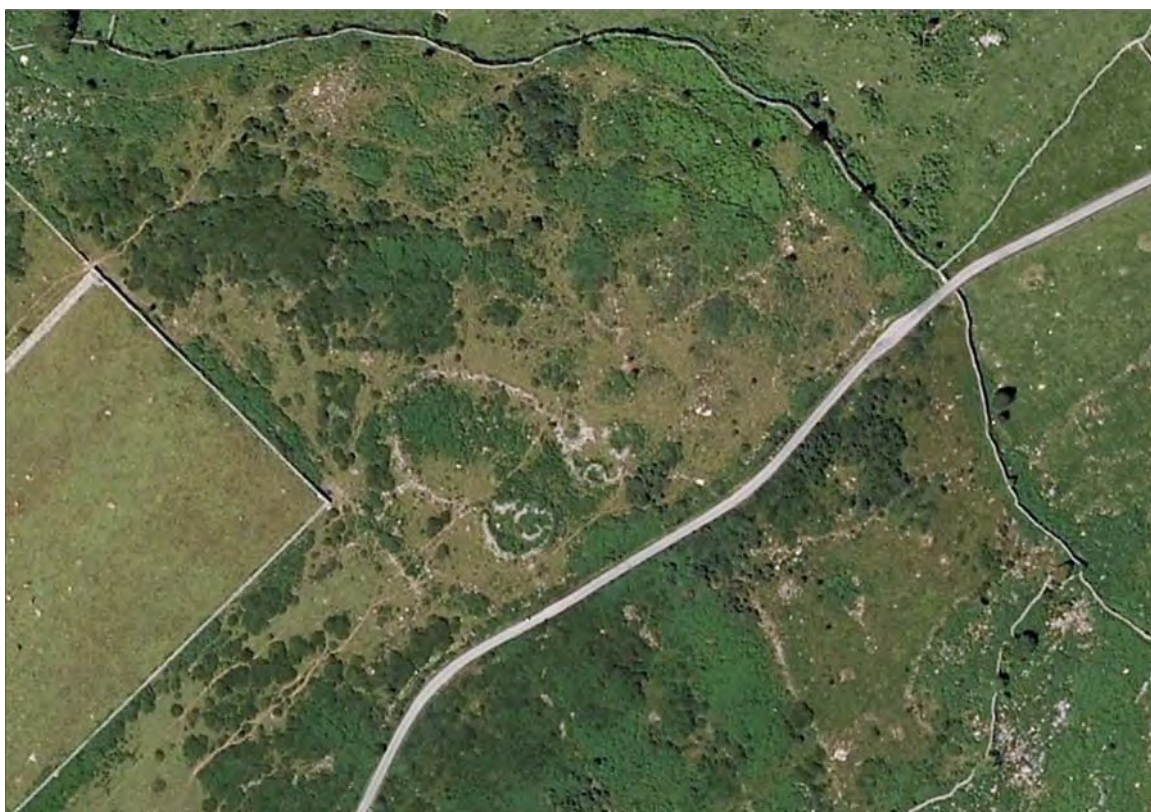


# THE CONSERVATION OF PREHISTORIC SETTLEMENTS AND FIELD SYSTEMS AT MURIAU GWYDDELOD, HARLECH PRELIMINARY REPORT

Project No. G2077

Report No. 892



Prepared for Cadw  
September 2010

By George Smith



Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

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Cover picture:  
The Muriau Gwyddelod settlement from the air, 2006, showing scrub encroachment

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Gwynedd Archaeological Trust**



**CADW EARLY FIELDS PROJECT  
GAT PROJECT NO. G2077**

**CONSERVATION OF PREHISTORIC SETTLEMENTS AND FIELDS SYSTEMS AT  
MURIAU GWYDDELOD, HARLECH: PRELIMINARY REPORT, MANAGEMENT  
ISSUES**

George Smith

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## **1. INTRODUCTION**

This is a preliminary report on the management part of a scoping project that is investigating prehistoric fields in North West Wales. The project is studying the general background to early fields and field systems and considers their survival, archaeological value and the effects of modern land use. It produces evidence from three case studies of protected areas of field system derived from ground survey, geophysical survey, excavation and environmental investigation. This preliminary report focuses on the specific management problems of one of the case study areas, close to Harlech. The final report will make recommendations for methods of land management of areas of similar features generally. This will aim to ensure the survival of the extensive and sometimes fragile fields, balancing the restraints of continuing land use, maintenance of biologically sensitive habitats and invasive vegetation.

## **2. BACKGROUND TO THE STUDY OF EARLY FIELDS IN NORTH WALES**

This study aimed to provide new understanding about the numerous and extensive early field systems that exist in north-west Wales. Many of these have been surveyed by the Royal Commission on Ancient and Historic Monuments in Wales (RCAHMW) but none have been the subject of modern excavation and research. Their origins, date and methods of use have not been the subject of archaeological investigation. On the other hand a number of the settlements associated with these field systems have been excavated, some of them recently with the advantage of radiocarbon dating. These mostly show occupation in the late first millennium BC or during the Roman period although agriculture and settlement clearly started much earlier, at least in the lowlands. Settlement was dependent on an economic base and in most cases this was agriculture in its general sense. This in turn was dependent on the natural resources of the environment and land suitable for cultivation depended on the presence of suitable soils that were fertile, tillable and with good drainage. Some work on this environmental determinism has been carried out in Gwynedd, indicating an avenue for research that has not subsequently been pursued (Johnson 1981). Another question is the mechanism which created the upland transition from forest soils to podsoles, particularly lacking information for the Neolithic period. The function of field boundaries needs investigation, whether acting as simple clearance dumps, cultivation limits or as constructed walls, banks or hedges, designed for stock inclusion or exclusion. The identification of physical or environmental evidence of hedges would make a big difference to the understanding of husbandry as would the identification of buried soils, possibly obtaining dating evidence resulting from primary clearance episodes. In some cases boundaries may have been simply linear clearance dumps, in others carefully revetted banks may have been created. Some field systems are massively terraced but it is not known whether these are simple lynchets, developed over long-continued use, or were created deliberately to improve the ground. Many areas of fields associated with round houses also have medieval long huts or platform huts closely associated and in some cases may have been modified from rectangular fields to strip terraces to suit changing cultivation techniques.

The RCAHMW recognized two main types of prehistoric field systems, those with small sub-rectangular, terraced fields and those of curvilinear design with no obvious terracing. A few areas of field systems have been protected as ancient monuments but the extent of them and their often fragmented survival makes protection problematic and inevitably many are unprotected and at risk. Some extensive areas of fields have also been planned as part of the RCAHMW aerial mapping programme. No field systems in north-west Wales have been the specific subject of archaeological research and the dates and methods of use of such fields is uncertain. Small sub-rectangular fields are generally dated by association with nearby roundhouse settlements known to have been occupied in the Romano-British period but likely to have originated much earlier. In

parts of Cornwall, areas of exceptional preservation suggest that field patterns actually originated in the second millennium BC and gradually evolved over subsequent centuries. Traces of Neolithic and Bronze Age farming are known from Southern England, South Wales and Ireland but have yet to be identified in North Wales.

Field systems differ from settlements in that they cover much larger areas, so are difficult to study and have generally been neglected by research. Such extensive areas of features are also vulnerable to environmental changes. These changes can be traumatic by direct clearance and cultivation or quite gradual as a result of changes in grazing pressure or drainage. Some of the best preserved ancient fields are those sealed beneath blanket peat and these can be at risk from drying out after drainage or even just from climate change. Protection of peat deposits will therefore often be advantageous to archaeological remains. Management of extensive archaeological remains therefore needs to go hand in hand with general management of the landscape, whether through agricultural grant schemes or through management of drainage schemes.

Study of the present landscape to assess such factors as soil carbon conservation or water catchment sensitive farming needs to have a long timescale for analysis of changes. This is something that archaeology can provide, particularly where it comes to study of the wider rural landscape, through identification of buried soils that can be dated and be used for environmental pollen analysis.

Direct pressure, such as by clearance and cultivation, on the unimproved areas of landscape have generally declined as schemes such as Tir Gofal have been applied and stocking densities have often been deliberately decreased. The subsequent effect on the flora can improve biodiversity but threaten archaeological remains due to growth of bracken and scrub. Some marginal areas of partially improved upland often contain remnants of early fields and these can be subject to occasional cultivation for re-seeding. The ready availability of excavation machinery also makes drainage works increasingly easy.

### ***Acknowledgements***

Many thanks must go to the farmers that allowed access and hospitality for the survey and fieldwork - Mr Dafydd Owen, Brwyn Llynau, Harlech; Mr Gwion Davies, Draenogau Mawr, Talsarnau, Mr E. Jones, Fachell, Bethel, Caernarfon and Mr Hywel Pugh, Tyddyn Sion Wyn, Talsarnau, Thanks also go to people who are or have been involved in the ongoing management issues - Dr Mike Yates, Ian Halfpenney and Adele Thackeray (Cadw) Rhodri Dafydd (Countryside Council for Wales), Emyr Wyn Jones and John, G. Roberts (Snowdonia National Park Authority).



### **3. MANAGEMENT STUDY, MURIAU GWYDDELOD, HARLECH**

#### **3.1 Introduction**

The hillsides east of Harlech contain a well-preserved landscape of broadly Iron Age date containing field systems and associated enclosed settlements. This landscape continues in a fragmented condition for several kilometres. The largest and best preserved field system lies immediately east of Harlech, known locally as the Muriau Gwyddelod - 'Irishmen's Walls'. Close by are two smaller areas of preservation at Groes Las and Fronhill. These three areas are all scheduled ancient monuments, respectively Me10, Me95 and Me158. Only the part of the central settlement area of SAM Me10 has previously been the subject of measured survey (Fig. 1) and the great majority of these areas have no previous record. These three areas then were the subject of the present study, involving overall topographic survey and archaeological recording supported by focused geophysical survey and trial excavation. The area has been subject to increasing scrub and bracken growth in recent years, making the archaeological remains gradually less visible and potentially leading to damage by roots and to the increasing likelihood of damage should attempts be made to remove the scrub cover. One of the aims of the present study then was to make a formal record of the features present and to produce ideas for future management.

#### **3.2 Topographic background**

The field system lies at a height of between 130-200m OD on a north-west facing slope, forming the western edge of an area of undulating upland plateau at the point where it drops steeply to the coastal plain. The plateau and coastal slopes are marginal agricultural land in modern terms and generally used for pasture rather than arable. However, this area shows extensive evidence of pre-modern activity including Neolithic tombs, Bronze Age burial cairns and Iron Age, Romano-British and Medieval settlements and field systems. The plateau, at heights above about 200m OD, has remains of settlements but not field systems, indicating that pastoral farming was the basis of the economy. The lower slopes have extensive stone-walled or terraced fields with developed terracing, indicating arable farming, associated with settlement features.

The Muriau Gwyddelod site is an unusually well preserved area of settlement and field system, but it owes this survival to the poor and stony nature of the land there, so that much of it has been avoided by Post medieval clearance and farming. The best preserved area then is not one that had particularly good potential for early arable agriculture but nevertheless has a complex field system of low stony boundaries with some slight terracing that may derive from cultivation.

The overall area of SAM Me10 is about 23 hectares (57 acres) which falls into four land ownerships. The largest part belongs to Brwyn Llynnau Farm, which also owns the area of a smaller area of preserved field system at Fronhill, to the south, SAM Me 158. There is another isolated area of preservation to the south-west at Groes Las, containing an enclosed settlement, SAM Me 95. The area between and around these protected areas has been largely cleared and improved but contains a few traces of terraces and boundaries, which help to understand the wider field pattern.

These areas of archaeological features, apart from the Groes Las settlement, were surveyed by Dr Robert Johnston of Sheffield University in January 2010, as part of the present project and this provided the basis of all other recording (Fig. 2). Areas corresponding to suitable blocks of modern land usage were numbered Fields 1 – 12 and features numbered within them. The survey plan was completed by GPS and enhanced with ground measured detail. It must be borne in mind that although the survey was carried out in winter, when vegetation cover was reduced, some

areas have a dense standing cover of gorse that made survey difficult or impossible, so some features, especially minor ones could have been omitted. The archaeological survey is only described in outline here, being fully covered in the Archaeological Report.

The Brwyn Llynnau part of SAM Me 10 contains the main focus of settlement and the largest areas of fields and enclosures, present in Fields 6a and 6b. It comprises two small groups of roundhouses, both forming a type of structure known as a 'courtyard house', typically of Late Iron Age or Romano-British date. The houses are attached to a larger sub-circular enclosure and around these features is a field system, which is partly concentric to and partly radial to the larger central enclosure.

Further to the north and down-slope on a lower natural terrace within Field 6b are the remains of two stone-walled rectangular huts of presumed Medieval date. There are further fragments of fields in Fields 10 and 11 to the west. Scattered within most of the fields are clearance cairns (e.g. Fig. 3).

The two courtyard houses in Field 6b form the terminals of a gap or entrance in the larger enclosure which suggests that it formed an attached yard. This gap appears to lead south towards a double-walled trackway that continues eastwards through the north side of Field 1. This wandering trackway is known locally as Y Ffordd Wyddelig – 'The Irish Road' (Fig. 5). It seems to have been replaced as a local route by the present straight road, which cuts through several earlier fields. This straightened route was perhaps originally a turnpike coach road, and pre-dates the 1889 Ordnance Survey map. The wandering track continues eastwards through the adjoining Field 2, belonging to Tyddyn-du, and beyond, where it probably continued towards Talsarnau and Cwm Bychan. There are some traces of old boundaries in Field 2 but this area has been quite well cleared of stone. The land here is almost level and the boundaries are slight boulder lines with no obvious lynchetting. One small curvilinear enclosure at the south of Field 2 is visible on the earlier aerial photographs but barely traceable on the ground.

Further to the east in Field 5, beyond the scheduled area the land is heather-covered and contains one small sub-rectangular hut with an attached boulder wall and to the north a large curvilinear enclosure formed by boulder lines. These features probably belong to Medieval or early post-Medieval sheep pasturing.

The scheduled area within Fields 7 and 8 lie within another ownership (Draenogau Mawr) and form just a part of larger, well cleared and improved fields although within them there are still recognizable terraces and banks belonging to the earlier field system. However, the actual scheduled area within Field 7 and 8 was found to be almost devoid of earlier features. Within Field 7 there is a linear group of small rectangular stone-walled huts, the walls still quite well preserved and probably of Post-Medieval date but of unknown function.

Field 9 lies within another ownership (Tyddyn Sion Wyn) and contains two substantial sub-circular stone-walled enclosures. One to the north contains a single round house but that to the south, which has a massively thick stone wall, has no visible house or houses. It may be that any houses were later cleared and the enclosure re-used as a stock pen. These two enclosures are incorporated in a series of early field walls that appear to be part of the same field system as that in Field 6b. This suggests that the enclosures were contemporary with or possibly earlier than the field system. Part of the wall of the southern enclosure wall has recently been damaged and restored.

Field 12 (Fronhill, SAM Me 158) contains a single sub-circular enclosure linked with a series of small irregular curvilinear fields which contain some lynchetting suggesting that they were cultivated fields. The central enclosure has no sign of houses within it but its interior is terraced into the slope so it was almost certainly a settlement. Perhaps if it did have stone-walled houses they were later cleared during Post-Medieval wall-building and the enclosure re-used as a stock enclosure or just for pasture. The enclosure and surrounding fields were targeted for geophysical survey and excavation as part of the archaeological study. This area was chosen because the boundaries showed better preservation and more obvious lynchet development than those in Field 6b. The Fronhill features are separated from Field 6 but within the intervening improved fields there are traces of earlier boundaries, indicating that the field system in Field 12 was just a continuation of that in Field 6 (Fig. 2).

The other outlying area of Groes Las lies in another ownership. It contains mainly a large sub-circular enclosure, concentric to a large round house. Although the enclosure has some radial fragments of field walls it is not visibly connected to the field system of Muriau Gwyddelod. The area does not have any major management problems and has been kept reasonably maintained by bracken cutting so was not included in the present survey.

### **3.3 Condition and Land use**

The extensive survival of early features here is largely because they were stone-built and because the area is stony and unsuitable for modern agriculture. The most complete preservation is that of the two courtyard houses in Field 6b, much of the walls of which still stand. However, some of the apparent height in the southern courtyard house belongs to re-use of the stones to construct a small hut of probable early Post-Medieval date. The interior of the attached larger enclosure also contains a clearance cairn and this may belong to a clearance phase after the abandonment of the settlement and perhaps associated with the later re-use. If so, it is possible that the larger enclosure, which is substantially walled, could have originally contained a roundhouse or houses. The layout of the settlement overall could be interpreted as a concentric enclosed settlement of Earlier Iron Age date that was replaced by the two courtyard houses in the Late Iron Age or Romano-British period.

All the surviving early field boundaries are reduced to rubble banks after centuries of pasture trampling and there is little evidence the boundaries ever formed faced walls (e.g. Figs 4 and 6). The boundaries clearly used sub-angular glacial rubble collected during initial clearance of the fields. However, there are also clearance cairns within the fields. Since these stones were not incorporated within the boundaries there is a suggestion then of a second phase of clearance. This could belong to the courtyard house phase or with the two rectangular huts of probable Medieval date at the north of Field 6b.

Although this is an extensive and complex system of early fields there is no obvious evidence of cultivation within them. There is some slight terracing that could derive from lynchetting but there are no cultivation features as such. The soil is also very thin with protruding boulders and areas of unclearable boulder field and seems unsuitable for cultivation. However, the original post-glacial forest soil might have been much better and could have deteriorated over time. This is one of the questions that the detailed study planned to address. The main settlement in fact occupies what was probably the poorest, most marginal piece of land locally, and this was probably deliberate. Partly for better drainage, but partly to avoid using land that was better used for cultivation.

All the modern fields are currently used for pasture with cattle in ownership areas A and C and sheep in areas B and D. The low stony structure of most of the remains makes them fairly stable in the face of continuing sheep and cattle grazing although still vulnerable to the use of wheeled machinery.

Comparison of old and present day aerial photographs shows that prior to about 1970 the whole area was fully cleared and open grass pasture (Figs 7 and 8). This must have been the result of continuous, fairly intensive grazing and of traditional methods of scrub control by winter burning. Fields 7, 8 and 12 have been largely kept clear, made easier by the absence of features but the other fields are now heavily encroached upon by bracken and, more damagingly, by gorse (Fig. 9). The gorse is of the European (winter-flowering) type, which grows to a considerable height and causes a potential fire risk. This type of gorse is not considered to be of as much nature conservation value as the Western type, so can be cleared. Brambles and briars and some blackthorn are also spreading within the main enclosure in Field 6b. Field 9 is affected by a very dense spread of bracken, indicating that the soils are deeper there. The most complete scrub development is in Field 1 where there is hardly any open grass left in the gorse cover.

### **3.4 Effects of scrub growth**

The area is crossed by a several public footpaths, which are still used although made difficult by the spread of scrub. The footpaths allow some archaeological features to be seen, which are quite well known locally although the main features are not publicly accessible or easily visible. The invasive scrub growth obscures the archaeological features and forces the cattle into narrow paths, leading to localized erosion where early boundaries are crossed. The growth of woody scrub is of particular danger to the settlement features through the effects of root action and by making the removal of the scrub without causing damage, ever more difficult.

### **3.5 Landscape Management**

The main area of SAM Me 10, held by Brwyn Llynau is farmed under a Tir Gofal agreement. This, as well as its scheduled status, may have contributed to a reduction in grazing, to a lack of intrusive scrub management and to the development of bracken and scrub. The owner seemed to believe that cutting the scrub would not be allowed because it would be deleterious for wild life. However, the Tir Gofal office says that the control of scrub as part of the normal land management is admissible. In this case it should perhaps have been actively encouraged. Some vegetation control has taken place in Fields 2, 5 and 8 by gorse and bracken cutting between archaeological features, without damage and this shows that it is possible with care.

All the farmers indicate a desire to improve the condition of their pasture and a willingness to do it using methods that will not damage the archaeological remains.

Study of the area as part of the Tir Gofal scheme showed that it has some botanical value with rare species of grass identified in some limited areas within the scheduled area. However, Rhodri Dafydd, the CCW Senior Conservation Officer for this area says that because these are grassland species then control of bracken and scrub was permissible and possibly even beneficial.

The present Tir Gofal scheme is now closed and will be replaced by a new scheme, Glastir. The first stage or All-Wales element is designed to help farmers protect wildlife habitats and landscape features. The second stage or Targeted element has more specific and specialized aims and is designed to aid soil and soil carbon management, water management and biodiversity management. It is likely that the owner of Brwyn Llynau will apply for this scheme but the other

landowners do not seem to wish to apply. Initial assessment suggests that Brwyn Llynnau would qualify for the Glastir scheme and its introduction might mean that management of the archaeological remains here could be incorporated, at least within the Brwyn Llynnau area. However, the scheme has yet to be initiated. The first stage will begin in 2012 and the second stage in 2013. The acceptance of a Glastir contract and the development of a management plan for it are therefore still in progress and some way off from being put into place or action being taken. However, it is as well that the management of the archaeological remains is being considered now.

Some areas will still lie outside the possible Glastir area so will need some other management arrangements. The proper management of the remains is also of interest to the Snowdonia National Park Authority who have taken part in the discussions and who have contributed small amounts to management schemes elsewhere.

### **3.6 Programme of works**

All the landowners were contacted in 2009 to seek agreement for the archaeological work within the scheduled area and to seek opinions on land use, management plans and the problems posed by the protected area. All readily gave permission for access although not necessarily understanding what the work was hoping to achieve and all agreed that management of the land to keep down scrub and bracken was desirable. Permission for the archaeological work also had to be obtained from CCW because of the biodiversity value of the area within the Tir Gofal scheme.

The survey and detailed archaeological work was carried out in January 2010.

For the development of a management plan an initial meeting was held at the National Park headquarters in March 2010. The most obvious problem areas needing work were those in Fields 6b (3ha) and adjoining on the opposite side of the road in Field 1 (3.6ha). It was suggested that BTCV volunteers might be involved in clearance. Cutting scrub was acceptable within the Tir Gofal scheme as long as it was in the winter, outside the bird nesting season and normally was recommended to be done in a phased approach of about 10% per area per year. The relevance of the Tir Gofal scheme to the upcoming Glastir scheme was discussed and the likelihood that any management scheme could not be introduced for some time. It was agreed that the Tir Gofal Officer would arrange a site meeting at Brwyn Llynnau with the landowner/farmer together with representatives from Cadw, GAT, CCW and the SNPA.

The site meeting took place in April 2010. It was suggested that:

- Gorse and bracken clearance would need brush cutting and chemical spraying of stems to prevent re-growth.
- The work would need to be done by a contractor.
- Spraying would need approval from CCW for its possible affect on the biodiversity.
- Cuttings would have to be removed and taken off-site for burning or composting.
- The work would need to be done in a phased approach, perhaps 10% each year.
- The work would have to be carried out between October and March.
- There may be some conflict if the owner is accepted into Glastir and there is also a financial input from a separate management agreement.
- The Snowdonia NPA could act as an agent for a management agreement, rather than the landowner himself.

- That erection of a sign indicating the site and its protected status would be useful
- That scrub vegetation areas should be plotted onto the archaeological survey and areas calculated to allow design and costs of clearance to be estimated (Fig. 9 and Appendix 1).

One problem to be taken into account is that some parts of the scheduled area form just parts of larger fields. Where these also contain scrub this would also need cutting even though it was outside the protected area and therefore not eligible for any management grant.

There is a suitable contractor known to the SNPA and costs would have to be researched. It was agreed that the possibilities of Glastir and a Management Agreement would have to be researched further and at present there has been no further progress.

### **3.7 Future recommendations**

The chief concern for Cadw is the preservation of the historic features. Observation of the surface remains and excavation of a trial area shows that the features are relatively stable in relation to normal stock pasturing but vulnerable to wheeled machinery and stone robbing. Scrub and bracken growth can damage the below ground remains in terms of archaeological value and if allowed to grow the eventual need, as at present, for the removal of scrub and bracken may cause damage.

Field 7 (Draenogau Mawr) contains only one early boundary feature and consideration could be given to removing this area from the scheduling.

A secondary concern should be that of improving knowledge and appreciation of the archaeological features. This would be partly achieved by clearance of the scrub cover. More direct improvement could be achieved by direct action, such as by:

- Provision of an interpretation panel.
- Arrangement of permissive access to the settlement in Field 6b, indicated on the sign.
- Provision of a parking lay-by.
- Inclusion of information about the site in a local leaflet or web-guide.
- Design of a local walk incorporating the site, perhaps shown on the SNPA web-site.

A specification for on-site management can be agreed now, even though its application will have to wait until any Glastir application is agreed.

Work in the Brwyn Llynau area, as part of Glastir would most appropriately start in the area of the main settlement in Fields 6a and 6b adjacent to the road.

Landowners not applying to the Glastir scheme may wish to begin some clearance. This will need agreement to a plan and method of work and to initial monitoring. This would include phased work on agreed areas.

In some areas the use of wheeled machinery is possible with care. This particularly applies to the areas of bracken which needs frequent cutting to control it. There are many factors in the control of bracken, which can be toxic to animals, and the spread of which is a national problem. The spores are carcinogenic to humans and it harbours ticks which can transmit serious disease. It needs a multi-faceted and sophisticated approach

Although hand cutting of scrub will be necessary in some areas, new brush-cutting machinery is now available that can be towed by soft tyred quad bikes. These have little impact on the ground and have been successfully used in the Conwy area (Fig. 10).

Long term maintenance of the grassland pasture must mean a return to a traditional annual round of care. Simply cutting the scrub is not sufficient. An increase in stocking rate is desirable and the traditional methods of piece-meal annual scrub control by burning must be replaced by cutting. Sheep pasture would be desirable as less damaging than cattle or horse pasture.

The new survey has produced an accurate record of the archaeological features at Muriau Gwyddelod that is useful for both research and for archaeological management. Moreover it has produced a record of the condition of the features and of the current vegetation that will be essential for the creation of a management plan for the maintenance of the landscape.

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## APPENDIX 1

### ESTIMATED AREAS OF FIELDS AND OF MAIN VEGETATION TYPES WITHIN SCHEDULED AREAS ME10 & ME158.

(Areas shown in hectares, vegetation areas simplified for measurement)

<b>Survey Field No.</b>	<b>Total area within SAM</b>	<b>Area grass dominant</b>	<b>Area grass with bracken</b>	<b>Area bracken with scattered gorse</b>	<b>Area gorse dominant</b>
F1	2.25	0.34		1.04	0.63
F2	2.16		2.16		
F2a	0.16	0.16			
F3	0.31		0.31		
F4	0.28		0.28		
F5	0.50		0.50		
F6a	0.90	0.38		0.18	0.38
F6b	2.90			2.32	0.58
F7	1.95	1.80			0.15
F8	0.98	0.63			0.35
F9	4.69	0.85	2.89		0.95
F10	1.77	0.49	0.60	0.68	
F11	0.74	0.20		0.48	0.06
F12 (Me158)	1.87	1.87			





Fig 1 Muriau Gwyddelod, Harlech, SAM Me 10. Survey of the main settlement area showing the two courtyard houses, yard and attached boundaries (Bowen and Gresham 1967)

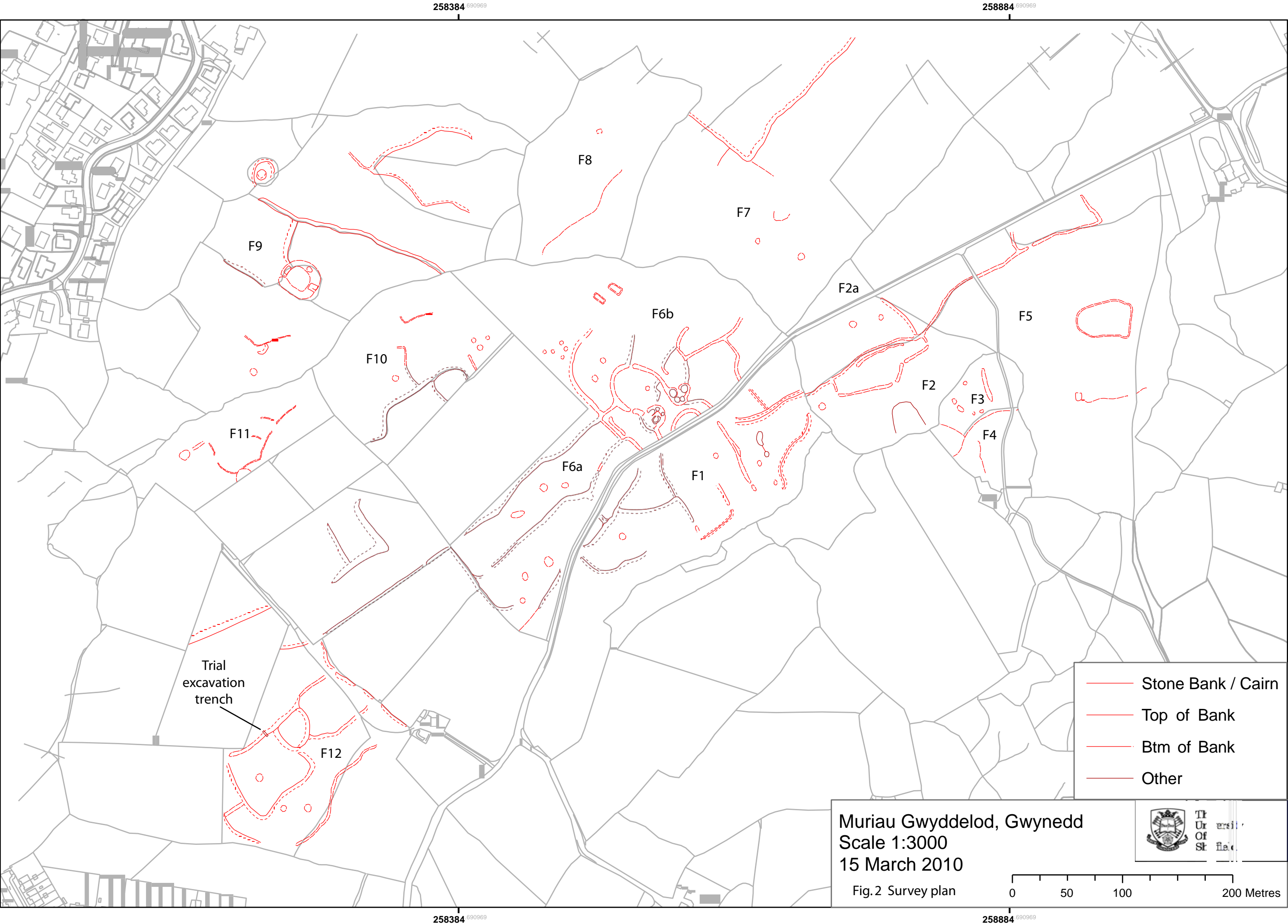






Fig.3 Muriau Gwyddelod, SAM Me10, Harlech, Clearance cairn, Field 1, Jan 2010



Fig.4 Muriau Gwyddelod, SAM Me 10, Harlech, Stony bank, Field 1, Jan 2010





Fig. 5 Muriau Gwyddelod SAM Me 10, Trackway 'Y Ffordd Wyddelig' Field 2 , Jan 2010



Fig. 6 Muriau Gwyddelod SAM Me 10, Stony bank Field 6b , Feb 2010





Fig.7 Muriau Gwyddelod, Harlech, SAM Me 10 Aerial photograph circa 1970 (Ordnance Survey)

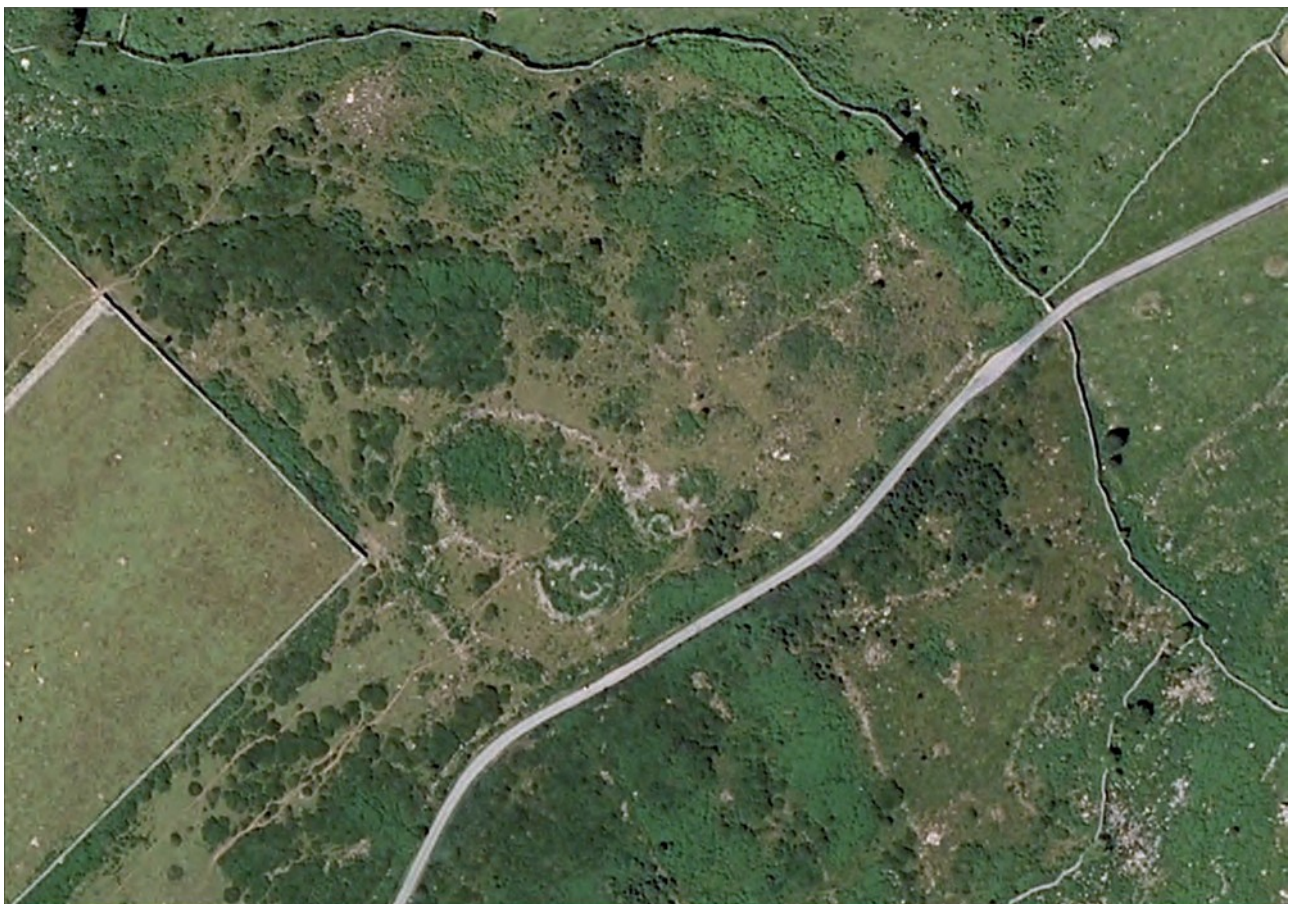


Fig.8 Muriau Gwyddelod, Harlech, SAM Me 10 Aerial photograph circa 2006 (Ordnance Survey)



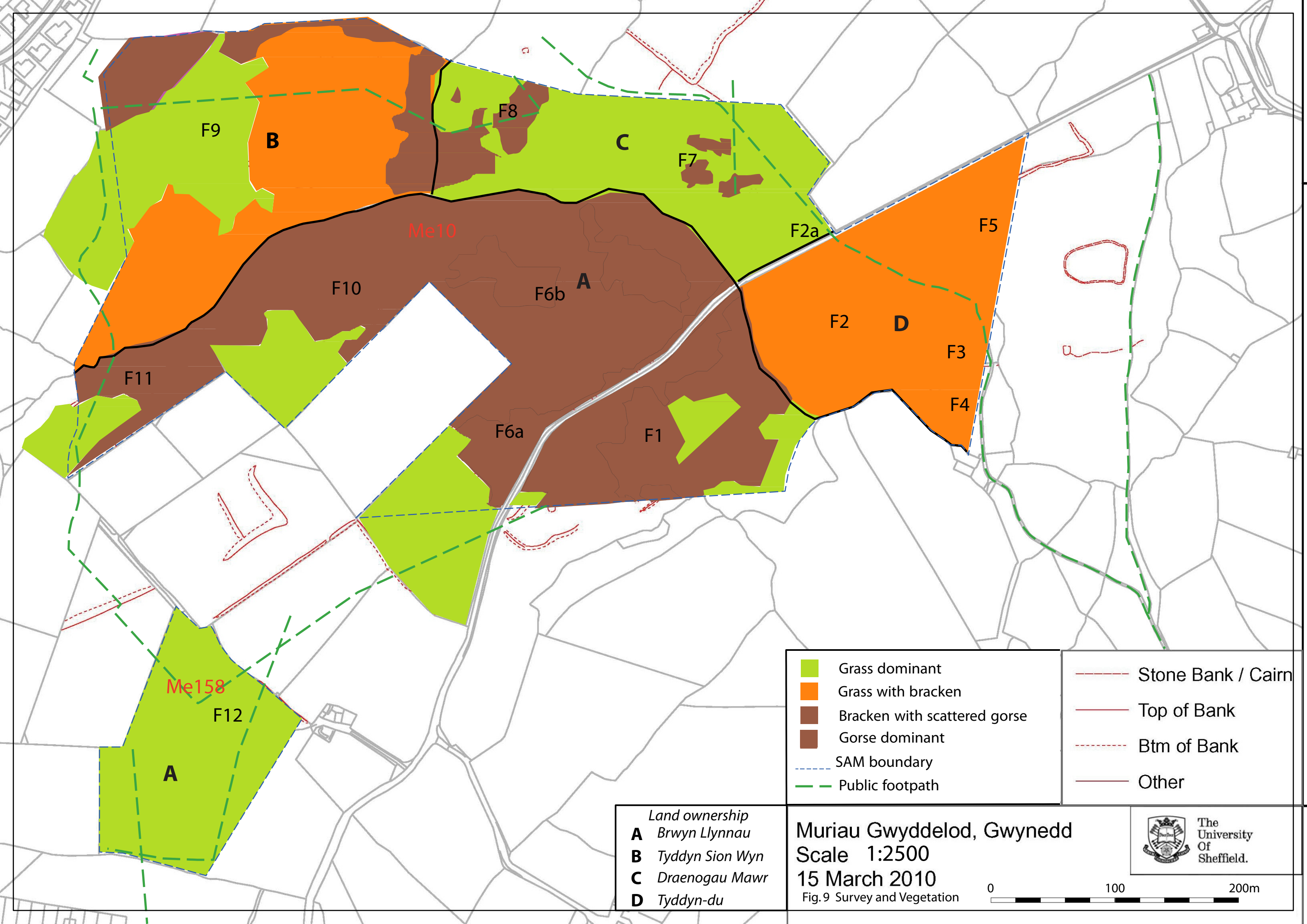






Fig. 10 Mobile brush-cutter towed by quad bike. Emyr Price, Conwy



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