Record Name: Upper Swaledale
SWAAG ID Number: 301
Recorded Date: 2011-11-03 08:37:35
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Record Date: 2011-11-03
Location: Upper Swaledale
Civil Parish: Not known
British National Grid:
Description: Relict Woodland on the Cliffs and Waterfall Ravines of Swaledale

Part One: Upper Swaledale

Work in Progress as at 31 October 2011

Introduction and Scope

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My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.
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My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest with plant communities reflecting different geology, aspect, aridity, accessibility and economic or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality which reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for vc 65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The Physical Background.

In Swaledale as elsewhere, very different woodland vegetation has developed in response to the soils derived from the abruptly changing rock strata - calcareous limestones succeeded by base poor sandstones and chert strata and from the glacial drift covered lower Dale Slopes.
Space does not permit an overview of the complex faulted Namurian strata of the study area and the reader is referred to Dunham and Wilson 1985. â€˜Geology of the Northern Pennine Orefield.â€™ Vol 2 Stainmore to Craven Geological Survey. HMSO. The interpretation of the of the complex faulted geological strata from the 1:50,000 scale BGS Map: England and Wales Sheets 40 and 41 Solid and Drift Edition requires specialist knowledge.

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Type A: Localities on the predominantly siliceous strata of Namurian Age above the top of the Main Limestone.

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It follows that the soils and vegetation development at each of these localities is potentially very different, thus:
Vegetation at Type A and B locations is wholly or generally acidic and species poor, with local enrichment from tufa springs.

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Woodland vegetation at all localities can be modified by species selective extraction in connection with lead smelting and from lead mining operations.

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Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex.

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5. As elsewhere throughout the Uplands, the junipers which survive in Swaledale are usually single bushes or isolated populations of less than 4 bushes at any one Location. These junipers are not viable and, sadly recent rabbit ring barking has led to severe damage or the death of very many isolated junipers.

6. Juniper has not yet been found on Stainmore within the Greta Catchment but has recently been identified by LR together with aspen in Baldersdale. Both aspen and juniper are widespread elsewhere in Upper Teesdale.

7. No recent record of juniper in Wensleydale exists, (Millward, 1988). It is noticeable that while a scattered population of juniper exists on the low cliffs above Cliff Beck on the Swale side of the Pass below the Buttertubs Road, in contrast, the very similar limestone cliffs of Fossdale Beck just 1km south, across the Swale-Ure interfluve are devoid of juniper.

8. Yews are perhaps the most impressive of the relict woodland trees of the limestone scars of Swaledale and it seems very strange that the similar limestone cliffs of Wensleydale are devoid of yews, most of the high limestone Scars of Wensleydale are barren or of any woodland vegetation for that matter.

The cliff yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty and as a resource for future research. Many will, I am certain prove to be of immense age.

This is not the place to expand on their different forms, both multistem and maiden trees of great size and girth exist in the comparative shelter of the lower cliff face and on the top edge of the scree slopes. The cliff edge yews, stunted and many stemmed, are clearly of very great age. I have already recorded and am engaged in recording very many specimen yews and many other cliff trees of all species representative of the cliff trees present on the Woodland Trust ATH Website. Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities will be made available on the Swaledale and Arkengarthdale Archaeological Society website.

It has become apparent that the cliff yews may be cloned populations. Reproduction from root systems penetrating far through the limestone is likely. For example, at Deepdale above East Applegarth in Lower Swaledale, a quick count of a population of 22 yews comprised 20 berried female trees, one male and one inaccessible tree that could not be identified as male or female.

Finally, the effects on the stability of limestone cliffs from penetration of root systems of large yews is worthy of note. Exposed yew root systems, python like, can be seen to extend across and down the face of many of the limestone cliffs. These large root systems must have once penetrated the massive limestone through very small fissures. Once present these roots expand and completely destabilise the cliff face leading to continuous rock falls and building of scree.

9. Discussion of aspen, juniper and yew should not deflect attention or detract from the significant populations of trees of other species - ash, wych elm, bird cherry, gean, hazel, rose spp rowan, rare rock whitebeam, sallows and other willow species, all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.

10. The risk that yews, alders, elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of yews at West Applegarth includes a significant and growing number of recently dead trees.
This dire situation needs to be monitored under a programme of research from a British University, at local level.

11. Finally, and perhaps most significantly, I shall draw attention to the existence of a extensive and healthy population of large leafed lime trees, Tilia platyphyllos, mostly managed coppice but also self coppiced ancient trees on the face and top edge of sheer limestone cliffs. in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south facing cliffs eastward from West Applegarth, beyond Willanceâ€™s Leap to Whitecliffe Woods. The presence of large leafed limes, Tilia platyphyllos in Swaledale, at the northern limit for this species in Britain was, I believe, first recognised by Professor C.D. Pigott.

Future contamination from planting schemes.

I know that I shall be treading on toes in expressing my view that the planting of inappropriate â€˜berriedâ€™ shrubs (ie hawthorn) in vast numbers above sheltered ravines with native woodland which includes blackthorn but largely excludes hawthorn will have long term effects which are not understood. The effects of this extensive planting on the native woodlands nearby are uncertain.
As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff at Hooker Mill Hole where a fine population of aspen, juniper (prostrate form) and ancient yews is now (hopelessly) competing for space with a flourishing population of self seeded european larch which originates from a small mature plantation located below the cliff. Larch are fine desirable landscape trees and the plantation was made for admirable reasons probably with no knowledge of the significance of the presence on the limestone cliff above the plantation, of a native refuge for aspen, juniper and yew. The indiscriminate planting of tree species of â€˜nursery stockâ€™ of unknown genetic origins all across the Yorkshire Pennines may have similar unforeseen consequences.

Similarly, DNA analysis can now determine the early post-glacial origins of the British Flora. The planting of trees and plants of distant lowland stock of unknown heredity sourced from nurseries competing on price may compromise the present valuable resource of surviving native woodland communities for future research.

The Woodland Localities

Generally

Woodland localities on the Upper Swale and on each of the principal feeder tributary streams within the Parish of Muker will be grouped together and briefly described (to follow) and are summarised as Table 1 (to follow).

Each of the locations detailed have their individual character, each an isolated fragment of woodland vegetation reflecting differing soils derived from abruptly changing geological strata, aspect, aridity and exposure to climatic conditions all of which may vary in the space of a few metres from shelter within steep sided waterfall ravines to the extremes of exposure and aridity on and below the highest Scars. Swaledale offers a fine opportunity to see woodland plant communities which reflect the full spectrum of exposure, and their own hard life history.
It is very clear that the relative accessibility to grazing animals, primarily rabbits, determines the present

survival of plant communities at all locations.

It is also clear that isolated small and non viable populations of juniper, yew, wych elm, and other tree species are currently subject to sudden death from several known and unknown causes. The primary aim of this account of isolated woodland communities is to draw attention to the presence of these locations, primarily as fragments of relict woodland, once widespread, which merit the most careful conservation. These localities are significant places in their own right with ancient trees of the highest sculptural and cultural value reflecting their long hard life and now subject to active and severe threats to their continued existence.

I have defined Upper Swaledale advisedly, since the Main Limestone- well seen at Cotterby Scar, the fine limestone cliff above Wainwath Falls, marks the transition from the Visean Limestone Series to the predominantly siliceous Namurian Series of Carboniferous Rock Strata. This transition also marks a change from the potentially calcareous vegetation on and below the Main Limestone to the predominantly acidic vegetation on the base poor cherts, sandstones and mudstone overlying the Main Limestone.

In fact the rock strata of the study area are abruptly and so severely faulted so that the top of the Main Limestone, 345m on Cotterby Scar at Wainwath Falls is at 500m elevation some 5km to the south east at Long Scar, Great Sleddale.

Thus, I have been able to summarise 38 localities on or below the Main Limestone and 22 localities stratigraphically above the Main Limestone. This is work in progress and 10 known localities in Upper Swaledale have not yet been visited. See Table 1.

During this fieldwork it became apparent that strongly calcareous, tufa forming seepages or springs were present at locations with sandstones and mudstone strata, usually just above stream level. Local enrichment from these springs required separate discussion of these sites from the otherwise wholly acidic vegetation- as Type B sites.

Special emphasis is due to the presence of aspen, juniper, willow spp and bird cherry - survivors of pioneering woodland communities, present in Swaledale from early post glacial time.

To follow shortly, as additional to this Introductory Geographical Account :-

1. The Relict Woodland Localities in their landscape setting - a brief description of the woodland fragments on the Upper Swale and at each of the tributary streams of the Upper Swale.
2. Table One: Upper Swaledale - Gazetteer of Sites in the Parish of Muker.
Additional Notes: PROJECT SUMMARY:

RELICT WOODLAND ON THE CLIFFS AND WITHIN THE WATERFALL RAVINES OF SWALEDALE

TIM LAURIE

Work in Progress

Records are to be added on a day to day basis.

Initial priority will be to complete the records for Area 1 Upper Swaledale followed by records to

Areas 2-6 in sequence.

Thus, there will be few records in Areas 2-6 at present, but this situation will rapidly improve. Much fieldwork has been completed in all areas.

SUMMARY

This is a short introduction to a programme of current fieldwork designed to record the distribution of native tree species and woodland fragments throughout the River Swale catchment, west of Richmond.

My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.

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Preliminary conclusions on the data:

While much fieldwork has been completed within the whole of the study area, the following remarks apply principally to Upper Swaledale where records are most advanced. See map.

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2. Aspen has been recorded in the Swale Catchment above the confluence of Arkle Beck at a total of more than 20 sites. Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three

or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex. Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

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The Woodland Localities Generally.

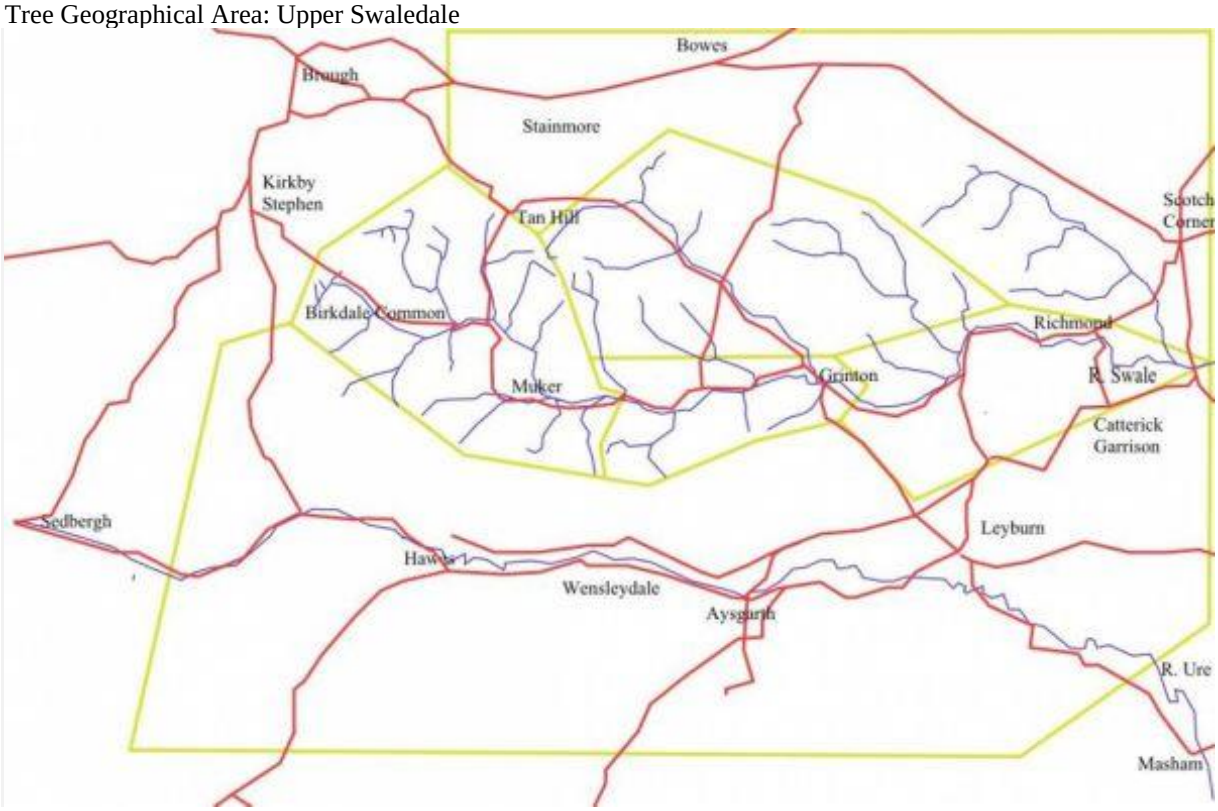
Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities are available on the Swaledale and Arkengarthdale Archaeological Society website:

Swaledale Woodland Project

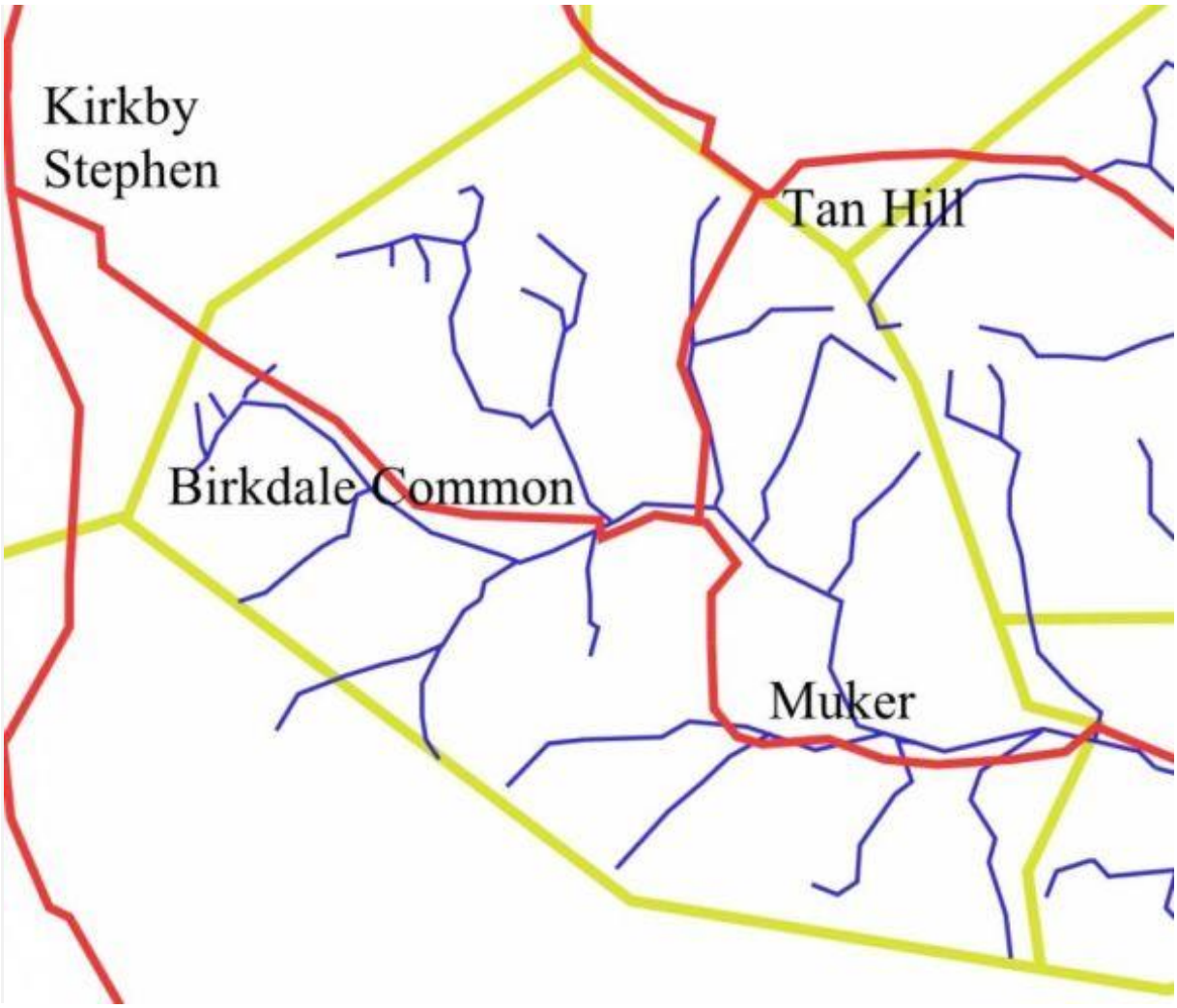
Tim Laurie

31 October 2011

Last Update: 2011-11-19
Tree Geographical Area: Upper Swaledale



Record Number 301 >>> Image 1: Woodland Project Map



Record Number 301 >>> Image 2: Upper Swaledale Section

Record Name: Mid Swaledale (Melbecks (part), Reeth and Grinton CP's)
SWAAG ID Number: 302
Recorded Date: 2011-11-03 08:39:06
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Record Date: 2011-11-03
Location: Mid Upper Swaledale (Mid-Upper Swaledale, comprising the Swale catchment from the eastern limits of Muker CP down to the confluences of the Arkle Beck and Grinton Gill with the River Swale)
Civil Parish: Grinton
British National Grid:
Description: Relict Woodland on the Cliffs and Waterfall Ravines of Swaledale

Part Two: Mid Swaledale<Grinton, Melbecks and Reeth><CP's>

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The cliff yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty and as a resource for future research. Many will, I am certain prove to be of immense age.

This is not the place to expand on their different forms, both multistem and maiden trees of great size and girth exist in the comparative shelter of the lower cliff face and on the top edge of the scree slopes. The cliff edge yews, stunted and many stemmed, are clearly of very great age. I have already recorded and am engaged in recording very many specimen yews and many other cliff trees of all species representative of the cliff trees present on the Woodland Trust ATH Website. Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities will be made available on the Swaledale and Arkengarthdale Archaeological Society website.

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Finally, the effects on the stability of limestone cliffs from penetration of root systems of large yews is worthy of note. Exposed yew root systems, python like, can be seen to extend across and down the face of many of the limestone cliffs. These large root systems must have once penetrated the massive limestone through very small fissures. Once present these roots expand and completely destabilise the cliff face leading to continuous rock falls and building of scree.

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TIM LAURIE

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Records are to be added on a day to day basis.

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SUMMARY

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My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.

I have been concerned with the recording of Archaeological Landscapes throughout Wensleydale, Swaledale and the Swale-Tees/Greta Uplands (my study area) for almost 40 years and was introduced to the significance of ancient woodland in the Landscape by Andrew Fleming. It followed that no real understanding of the nature of early human activity in the Pennine Uplands (based on hunting and transhumance) was possible without consideration to the contemporary prehistoric woodland environment.

My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest with plant communities reflecting different geology, aspect, aridity, accessibility and economic or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality which reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for vc 65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The survival of native woodland on the limestone scars and in the waterfall ravines of Wensleydale differs from that of Swaledale and today does not include juniper and only very rarely, yew. Aspen is common at lower elevations only. The vegetation of Stainmore does resemble that of Upper Swaledale except for the absence of juniper.

Plants, including trees, recorded at very many of the sites (marked * on Table 1) have been listed by LR. Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Allan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

Preliminary conclusions on the data:

While much fieldwork has been completed within the whole of the study area, the following remarks apply principally to Upper Swaledale where records are most advanced. See map.

1. Limestone ashwood with and without yew is limited to localities, on or below the top of the Main Limestone.

2. Aspen has been recorded in the Swale Catchment above the confluence of Arkle Beck at a total of more than 20 sites. Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three

or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex. Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

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The Woodland Localities Generally.

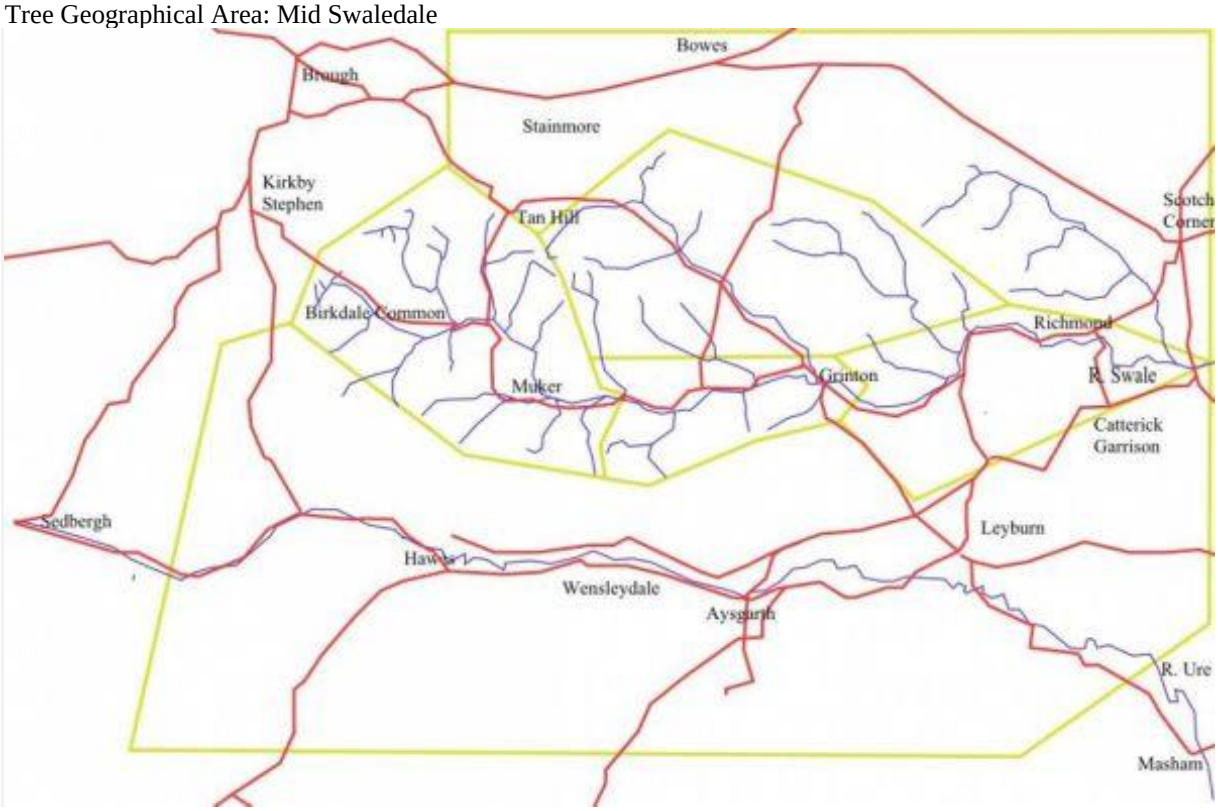
Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities are available on the Swaledale and Arkengarthdale Archaeological Society website:

Swaledale Woodland Project

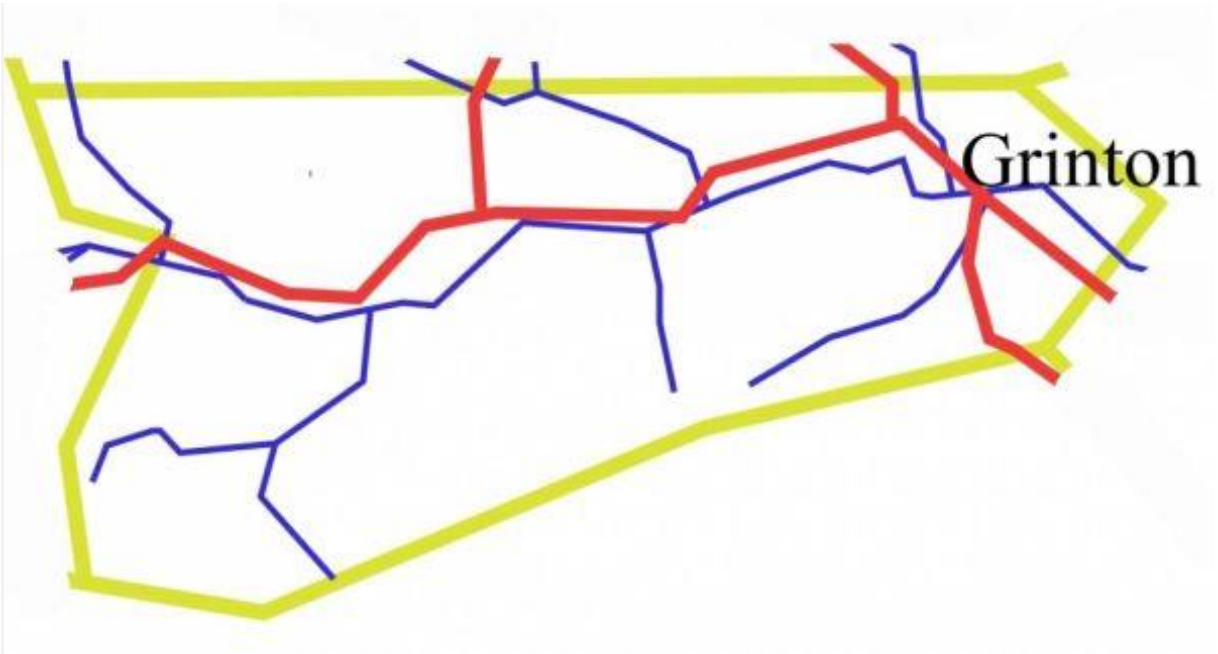
Tim Laurie

31 October 2011

Last Update: 2011-11-19
Tree Geographical Area: Mid Swaledale



Record Number 302 >>> Image 1: Woodland Project Map



Record Number 302 >>> Image 2: Mid Swaledale Section

Record Name: Lower Swaledale (Grinton - Richmond)
SWAAG ID Number: 303
Recorded Date: 2011-11-03 08:40:42
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Record Date: 2011-11-03
Location: Lower Swaledale (Grinton - Richmond)
Civil Parish: Not known
British National Grid:
Description: Relict Woodland on the Cliffs and Waterfall Ravines of Swaledale

Part One: Upper Swaledale

Work in Progress as at 31 October 2011

Introduction and Scope

This is a short introduction to a programme of current fieldwork designed to record the distribution of native tree species and woodland fragments throughout the River Swale catchment, west of Richmond.

My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.
I have been concerned with the recording of Archaeological Landscapes throughout Wensleydale, Swaledale and the Swale-Tees/Greta Uplands (my study area) for almost 40 years and was introduced to the significance of ancient woodland in the Landscape by Andrew Fleming. It followed that no real understanding of the nature of early human activity in the Pennine Uplands (based on hunting and transhumance) was possible without consideration to the contemporary prehistoric woodland environment. In the absence of adequate pollen reports from Upper Swaledale I have recorded visible tree remains widespread at the base of blanket peat throughout the study area. (Laurie 2004). More recently, I have held the view that this would be best achieved with a detailed understanding of the composition and disposition of the native woodland communities which have developed on the differing soils derived from the abruptly changing rock strata of the area. (Rodwell, 1991. King C.A.M. in Millward 1988).

My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest with plant communities reflecting different geology, aspect, aridity, accessibility and economic or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality which reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for vc 65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The Physical Background.

In Swaledale as elsewhere, very different woodland vegetation has developed in response to the soils derived from the abruptly changing rock strata - calcareous limestones succeeded by base poor sandstones and chert strata and from the glacial drift covered lower Dale Slopes.
Space does not permit an overview of the complex faulted Namurian strata of the study area and the reader is referred to Dunham and Wilson 1985. â€˜Geology of the Northern Pennine Orefield.â€™ Vol 2 Stainmore to Craven Geological Survey. HMSO. The interpretation of the of the complex faulted geological strata from the 1:50,000 scale BGS Map: England and Wales Sheets 40 and 41 Solid and Drift Edition requires specialist knowledge.

Accordingly, the most basic categorisation of localities has been adopted here:

Type A: Localities on the predominantly siliceous strata of Namurian Age above the top of the Main Limestone.

Type B: As last but with local enrichment from strongly calcareous, tufa forming springs.

Type C: Localities on alternating limestone, sandstones and mudstone strata below the top of the Main Limestone.

Type D: Localities on the glacial drift covered hill slopes.

It follows that the soils and vegetation development at each of these localities is potentially very different, thus:
Vegetation at Type A and B locations is wholly or generally acidic and species poor, with local enrichment from tufa springs.

Vegetation at Type C and D Sites is potentially calcareous although leached soils provide the opportunities for local calcifuge communities.

Woodland vegetation at all localities can be modified by species selective extraction in connection with lead smelting and from lead mining operations.

Framework to the Survey
This is the first Part of a larger survey. For clarity the woodlands are to be described in six Sections within defined areas. Those within the Swale Catchment are to be described within Parts One to Four. For comparative purposes, woodland sites within the Ure Catchment (Wensleydale) are to be detailed within Part Five. Those to the north of Swaledale, and on Stainmore are detailed within Part Six.

These areas are further defined as follows:

Part One: Upper Swaledale comprising all sites within the catchment of the River Swale within the Civil Parish of Muker.
Part Two: Mid-Upper Swaledale, comprising the Swale catchment from the eastern limits of Muker CP down to the confluences of the Arkle Beck and Grinton Gill with the River Swale.

Part Three: Lower Swaledale, from the confluence with Arkle Beck downstream to Richmond.

Part Four North bank tributaries of the Swale comprising: the catchments of Clapgate Beck, Marske Beck, Arkle Beck, Barney Beck and Gunnerside Beck.

Part Five: Selected woodland sites within the catchment of the Ure.

Part Six: Selected sites within the catchment of the Tees/Greta (Stainmore).

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Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Alan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

Preliminary conclusions on the data.

1. Limestone ashwood with and without yew is limited to exposures at Type C and D Localities, on or below the top of the Main Limestone.

2. Aspen has been recorded in the Swale Catchment above the confluence of Arkle Beck at a total of more than 20 sites at all Type Localities. The few aspen records from the lower dale slopes (Type D Localities) indicate that aspen was once widespread at all elevations.

Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex.

Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

3. Juniper has been recognised to date at more than 40 localities in the Swale Catchment at and upstream of Ellerton Scar and at all Type A-D localities.

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5. As elsewhere throughout the Uplands, the junipers which survive in Swaledale are usually single bushes or isolated populations of less than 4 bushes at any one Location. These junipers are not viable and, sadly recent rabbit ring barking has led to severe damage or the death of very many isolated junipers.

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My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.

I have been concerned with the recording of Archaeological Landscapes throughout Wensleydale, Swaledale and the Swale-Tees/Greta Uplands (my study area) for almost 40 years and was introduced to the significance of ancient woodland in the Landscape by Andrew Fleming. It followed that no real understanding of the nature of early human activity in the Pennine Uplands (based on hunting and transhumance) was possible without consideration to the contemporary prehistoric woodland environment.

My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest with plant communities reflecting different geology, aspect, aridity, accessibility and economic or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality which reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for vc 65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The survival of native woodland on the limestone scars and in the waterfall ravines of Wensleydale differs from that of Swaledale and today does not include juniper and only very rarely, yew. Aspen is common at lower elevations only. The vegetation of Stainmore does resemble that of Upper Swaledale except for the absence of juniper.

Plants, including trees, recorded at very many of the sites (marked * on Table 1) have been listed by LR. Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Allan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

Preliminary conclusions on the data:

While much fieldwork has been completed within the whole of the study area, the following remarks apply principally to Upper Swaledale where records are most advanced. See map.

1. Limestone ashwood with and without yew is limited to localities, on or below the top of the Main Limestone.

2. Aspen has been recorded in the Swale Catchment above the confluence of Arkle Beck at a total of more than 20 sites. Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three

or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex. Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

3. Juniper has been recognised to date at more than 40 localities in the Swale Catchment upstream of Ellerton Scar. The prostrate form of Juniper is thought to be present at all or most of the localities.

4. As elsewhere throughout the Uplands, the junipers which survive in Swaledale are usually single bushes or isolated populations of less than 4 bushes at any one Location. These junipers are not viable and, sadly recent rabbit ring barking has led to severe damage or the death of very many isolated junipers.

5. Juniper has not yet been found on Stainmore within the Greta Catchment but has recently been identified by LR together with aspen in Baldersdale. Both aspen and juniper are widespread elsewhere in Upper Teesdale.

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The cliff yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty and as a resource for future research. Many will, I am certain prove to be of immense age. It has become apparent that the cliff yews may be cloned populations.

8. Discussion of aspen, juniper and yew should not deflect attention or detract from the significant populations of trees of other species - ash, wych elm, bird cherry, gean, hazel, rose spp rowan, rare rock whitebeam, sallows and other willow species, all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.

9. The risk that yews, alders, elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of yews at West Applegarth includes a significant and growing number of recently dead trees. This dire situation needs to be monitored under a programme of research from a British University, at local level.

10. Finally, and perhaps most significantly, I shall draw attention to the existence of a extensive and healthy population of large leafed lime trees, Tilia platyphyllos, mostly managed coppice but also self coppiced ancient trees on the face and top edge of sheer limestone cliffs. in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south facing cliffs eastward from West Applegarth, beyond Willanceâ€™s Leap to Whitecliffe Woods. The presence of large leafed limes, Tilia platyphyllos in Swaledale, at the northern limit for this species in Britain was, I believe, first recognised by Professor C.D. Pigott.

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I know that I shall be treading on toes in expressing my view that the planting of inappropriate â€˜berriedâ€™ shrubs (ie hawthorn) in vast numbers above sheltered ravines with native woodland which includes blackthorn but largely excludes hawthorn will have long term effects which are not understood. The effects of this extensive planting on the native woodlands nearby are uncertain.
As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff at Hooker Mill Hole where a fine population of aspen, juniper (prostrate form) and ancient yews is now (hopelessly) competing for space with a flourishing population of self seeded larch which originates from a small mature plantation located below the cliff. See photograph.

The Woodland Localities Generally.

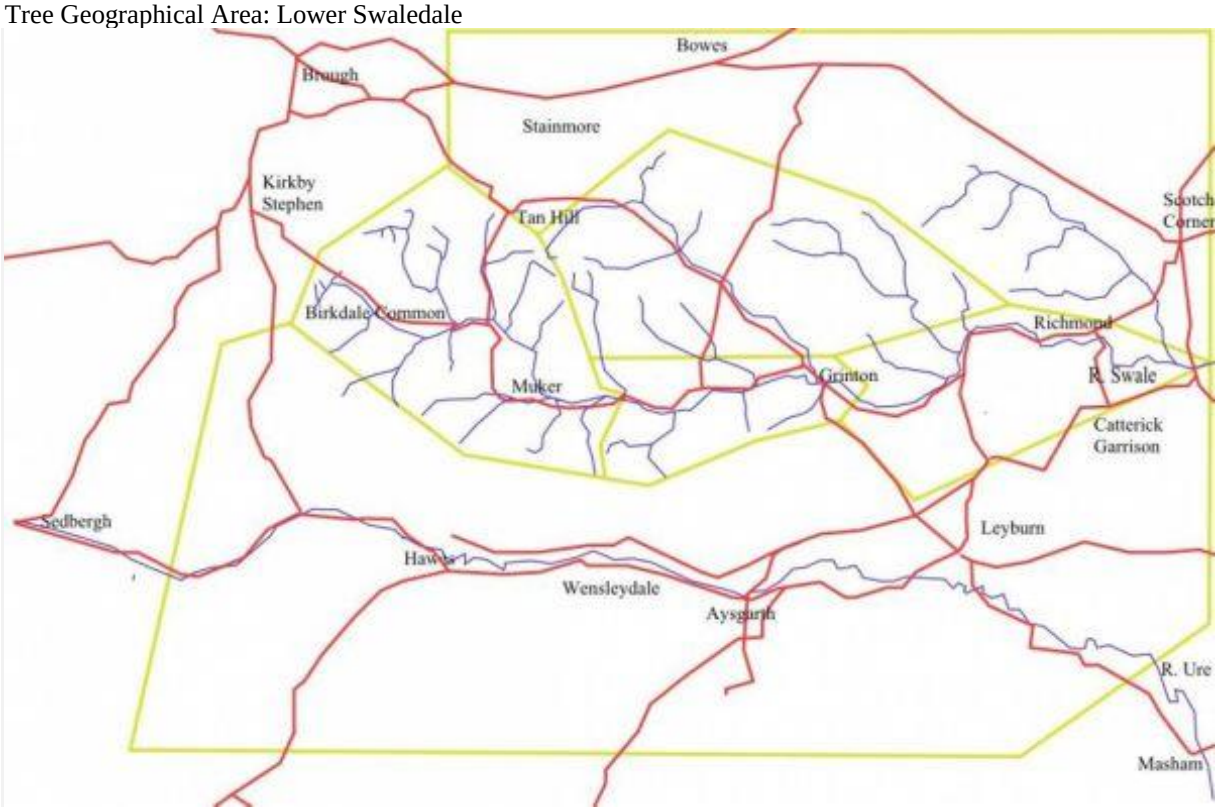
Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities are available on the Swaledale and Arkengarthdale Archaeological Society website:

Swaledale Woodland Project

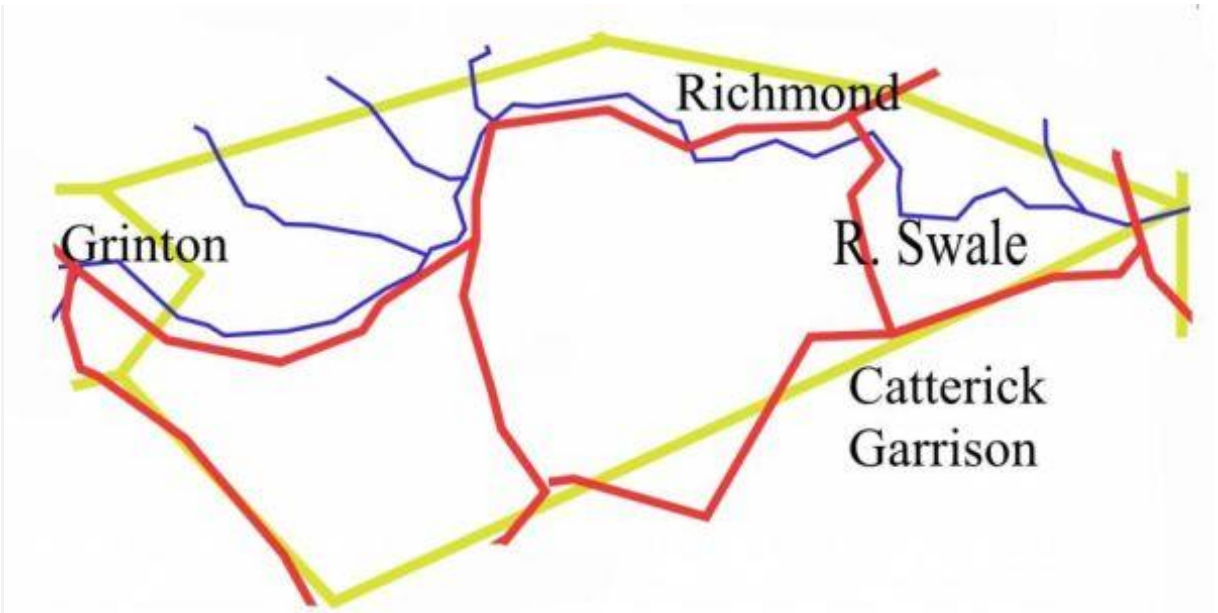
Tim Laurie

31 October 2011

Last Update: 2011-11-19
Tree Geographical Area: Lower Swaledale



Record Number 303 >>> Image 1: Woodland Project Map



Record Number 303 >>> Image 2: Lower Swaledale Section

Record Name: Swaledale High Level North Bank Catchment
SWAAG ID Number: 304
Recorded Date: 2011-11-03 08:41:46
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Record Date: 2011-11-03
Location: Swaledale North Bank Catchment
Civil Parish: Not known
British National Grid:
Description: Relict Woodland on the Cliffs and Waterfall Ravines of Swaledale

Part One: Upper Swaledale

Work in Progress as at 31 October 2011

Introduction and Scope

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My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.
I have been concerned with the recording of Archaeological Landscapes throughout Wensleydale, Swaledale and the Swale-Tees/Greta Uplands (my study area) for almost 40 years and was introduced to the significance of ancient woodland in the Landscape by Andrew Fleming. It followed that no real understanding of the nature of early human activity in the Pennine Uplands (based on hunting and transhumance) was possible without consideration to the contemporary prehistoric woodland environment. In the absence of adequate pollen reports from Upper Swaledale I have recorded visible tree remains widespread at the base of blanket peat throughout the study area. (Laurie 2004). More recently, I have held the view that this would be best achieved with a detailed understanding of the composition and disposition of the native woodland communities which have developed on the differing soils derived from the abruptly changing rock strata of the area. (Rodwell, 1991. King C.A.M. in Millward 1988).

My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest with plant communities reflecting different geology, aspect, aridity, accessibility and economic or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality which reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for vc 65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The Physical Background.

In Swaledale as elsewhere, very different woodland vegetation has developed in response to the soils derived from the abruptly changing rock strata - calcareous limestones succeeded by base poor sandstones and chert strata and from the glacial drift covered lower Dale Slopes.
Space does not permit an overview of the complex faulted Namurian strata of the study area and the reader is referred to Dunham and Wilson 1985. â€˜Geology of the Northern Pennine Orefield.â€™ Vol 2 Stainmore to Craven Geological Survey. HMSO. The interpretation of the of the complex faulted geological strata from the 1:50,000 scale BGS Map: England and Wales Sheets 40 and 41 Solid and Drift Edition requires specialist knowledge.

Accordingly, the most basic categorisation of localities has been adopted here:

Type A: Localities on the predominantly siliceous strata of Namurian Age above the top of the Main Limestone.

Type B: As last but with local enrichment from strongly calcareous, tufa forming springs.

Type C: Localities on alternating limestone, sandstones and mudstone strata below the top of the Main Limestone.

Type D: Localities on the glacial drift covered hill slopes.

It follows that the soils and vegetation development at each of these localities is potentially very different, thus:
Vegetation at Type A and B locations is wholly or generally acidic and species poor, with local enrichment from tufa springs.

Vegetation at Type C and D Sites is potentially calcareous although leached soils provide the opportunities for local calcifuge communities.

Woodland vegetation at all localities can be modified by species selective extraction in connection with lead smelting and from lead mining operations.

Framework to the Survey
This is the first Part of a larger survey. For clarity the woodlands are to be described in six Sections within defined areas. Those within the Swale Catchment are to be described within Parts One to Four. For comparative purposes, woodland sites within the Ure Catchment (Wensleydale) are to be detailed within Part Five. Those to the north of Swaledale, and on Stainmore are detailed within Part Six.

These areas are further defined as follows:

Part One: Upper Swaledale comprising all sites within the catchment of the River Swale within the Civil Parish of Muker.
Part Two: Mid-Upper Swaledale, comprising the Swale catchment from the eastern limits of Muker CP down to the confluences of the Arkle Beck and Grinton Gill with the River Swale.

Part Three: Lower Swaledale, from the confluence with Arkle Beck downstream to Richmond.

Part Four North bank tributaries of the Swale comprising: the catchments of Clapgate Beck, Marske Beck, Arkle Beck, Barney Beck and Gunnerside Beck.

Part Five: Selected woodland sites within the catchment of the Ure.

Part Six: Selected sites within the catchment of the Tees/Greta (Stainmore).

The survival of native woodland on the limestone scars and in the waterfall ravines of Wensleydale differs from that of Swaledale and today does not include juniper and only very rarely, yew. Aspen is common at lower elevations only. The vegetation of Stainmore does resemble that of Upper Swaledale except for the absence of juniper.

Plants, including trees, recorded at very many of the sites (marked * on Table 1) have been listed by LR.

Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Alan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

Preliminary conclusions on the data.

1. Limestone ashwood with and without yew is limited to exposures at Type C and D Localities, on or below the top of the Main Limestone.

2. Aspen has been recorded in the Swale Catchment above the confluence of Arkle Beck at a total of more than 20 sites at all Type Localities. The few aspen records from the lower dale slopes (Type D Localities) indicate that aspen was once widespread at all elevations.

Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex.

Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

3. Juniper has been recognised to date at more than 40 localities in the Swale Catchment at and upstream of Ellerton Scar and at all Type A-D localities.

4. The prostrate form of Juniper is thought to be present at all or most of the localities, however since this identification has not been formally confirmed by the BSBI, J. communis ssp nana has not yet been formally differentially noted in this record.

5. As elsewhere throughout the Uplands, the junipers which survive in Swaledale are usually single bushes or isolated populations of less than 4 bushes at any one Location. These junipers are not viable and, sadly recent rabbit ring barking has led to severe damage or the death of very many isolated junipers.

6. Juniper has not yet been found on Stainmore within the Greta Catchment but has recently been identified by LR together with aspen in Baldersdale. Both aspen and juniper are widespread elsewhere in Upper Teesdale.

7. No recent record of juniper in Wensleydale exists, (Millward, 1988). It is noticeable that while a scattered population of juniper exists on the low cliffs above Cliff Beck on the Swale side of the Pass below the Buttertubs Road, in contrast, the very similar limestone cliffs of Fossdale Beck just 1km south, across the Swale-Ure interfluve are devoid of juniper.

8. Yews are perhaps the most impressive of the relict woodland trees of the limestone scars of Swaledale and it seems very strange that the similar limestone cliffs of Wensleydale are devoid of yews, most of the high limestone Scars of Wensleydale are barren or of any woodland vegetation for that matter.

The cliff yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty and as a resource for future research. Many will, I am certain prove to be of immense age.

This is not the place to expand on their different forms, both multistem and maiden trees of great size and girth exist in the comparative shelter of the lower cliff face and on the top edge of the scree slopes. The cliff edge yews, stunted and many stemmed, are clearly of very great age. I have already recorded and am engaged in recording very many specimen yews and many other cliff trees of all species representative of the cliff trees present on the Woodland Trust ATH Website. Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities will be made available on the Swaledale and Arkengarthdale Archaeological Society website.

It has become apparent that the cliff yews may be cloned populations. Reproduction from root systems penetrating far through the limestone is likely. For example, at Deepdale above East Applegarth in Lower Swaledale, a quick count of a population of 22 yews comprised 20 berried female trees, one male and one inaccessible tree that could not be identified as male or female.

Finally, the effects on the stability of limestone cliffs from penetration of root systems of large yews is worthy of note. Exposed yew root systems, python like, can be seen to extend across and down the face of many of the limestone cliffs. These large root systems must have once penetrated the massive limestone through very small fissures. Once present these roots expand and completely destabilise the cliff face leading to continuous rock falls and building of scree.

9. Discussion of aspen, juniper and yew should not deflect attention or detract from the significant populations of trees of other species - ash, wych elm, bird cherry, gean, hazel, rose spp rowan, rare rock whitebeam, sallows and other willow species, all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.

10. The risk that yews, alders, elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of yews at West Applegarth includes a significant and growing number of recently dead trees.
This dire situation needs to be monitored under a programme of research from a British University, at local level.

11. Finally, and perhaps most significantly, I shall draw attention to the existence of a extensive and healthy population of large leafed lime trees, Tilia platyphyllos, mostly managed coppice but also self coppiced ancient trees on the face and top edge of sheer limestone cliffs. in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south facing cliffs eastward from West Applegarth, beyond Willanceâ€™s Leap to Whitecliffe Woods. The presence of large leafed limes, Tilia platyphyllos in Swaledale, at the northern limit for this species in Britain was, I believe, first recognised by Professor C.D. Pigott.

Future contamination from planting schemes.

I know that I shall be treading on toes in expressing my view that the planting of inappropriate â€˜berriedâ€™ shrubs (ie hawthorn) in vast numbers above sheltered ravines with native woodland which includes blackthorn but largely excludes hawthorn will have long term effects which are not understood. The effects of this extensive planting on the native woodlands nearby are uncertain.
As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff at Hooker Mill Hole where a fine population of aspen, juniper (prostrate form) and ancient yews is now (hopelessly) competing for space with a flourishing population of self seeded european larch which originates from a small mature plantation located below the cliff. Larch are fine desirable landscape trees and the plantation was made for admirable reasons probably with no knowledge of the significance of the presence on the limestone cliff above the plantation, of a native refuge for aspen, juniper and yew. The indiscriminate planting of tree species of â€˜nursery stockâ€™ of unknown genetic origins all across the Yorkshire Pennines may have similar unforeseen consequences.

Similarly, DNA analysis can now determine the early post-glacial origins of the British Flora. The planting of trees and plants of distant lowland stock of unknown heredity sourced from nurseries competing on price may compromise the present valuable resource of surviving native woodland communities for future research.

The Woodland Localities

Generally

Woodland localities on the Upper Swale and on each of the principal feeder tributary streams within the Parish of Muker will be grouped together and briefly described (to follow) and are summarised as Table 1 (to follow).

Each of the locations detailed have their individual character, each an isolated fragment of woodland vegetation reflecting differing soils derived from abruptly changing geological strata, aspect, aridity and exposure to climatic conditions all of which may vary in the space of a few metres from shelter within steep sided waterfall ravines to the extremes of exposure and aridity on and below the highest Scars. Swaledale offers a fine opportunity to see woodland plant communities which reflect the full spectrum of exposure, and their own hard life history.
It is very clear that the relative accessibility to grazing animals, primarily rabbits, determines the present

survival of plant communities at all locations.

It is also clear that isolated small and non viable populations of juniper, yew, wych elm, and other tree species are currently subject to sudden death from several known and unknown causes. The primary aim of this account of isolated woodland communities is to draw attention to the presence of these locations, primarily as fragments of relict woodland, once widespread, which merit the most careful conservation. These localities are significant places in their own right with ancient trees of the highest sculptural and cultural value reflecting their long hard life and now subject to active and severe threats to their continued existence.

I have defined Upper Swaledale advisedly, since the Main Limestone- well seen at Cotterby Scar, the fine limestone cliff above Wainwath Falls, marks the transition from the Visean Limestone Series to the predominantly siliceous Namurian Series of Carboniferous Rock Strata. This transition also marks a change from the potentially calcareous vegetation on and below the Main Limestone to the predominantly acidic vegetation on the base poor cherts, sandstones and mudstone overlying the Main Limestone.

In fact the rock strata of the study area are abruptly and so severely faulted so that the top of the Main Limestone, 345m on Cotterby Scar at Wainwath Falls is at 500m elevation some 5km to the south east at Long Scar, Great Sleddale.

Thus, I have been able to summarise 38 localities on or below the Main Limestone and 22 localities stratigraphically above the Main Limestone. This is work in progress and 10 known localities in Upper Swaledale have not yet been visited. See Table 1.

During this fieldwork it became apparent that strongly calcareous, tufa forming seepages or springs were present at locations with sandstones and mudstone strata, usually just above stream level. Local enrichment from these springs required separate discussion of these sites from the otherwise wholly acidic vegetation- as Type B sites.

Special emphasis is due to the presence of aspen, juniper, willow spp and bird cherry - survivors of pioneering woodland communities, present in Swaledale from early post glacial time.

To follow shortly, as additional to this Introductory Geographical Account :-

1. The Relict Woodland Localities in their landscape setting - a brief description of the woodland fragments on the Upper Swale and at each of the tributary streams of the Upper Swale.
2. Table One: Upper Swaledale - Gazetteer of Sites in the Parish of Muker.
Additional Notes: PROJECT SUMMARY:

RELICT WOODLAND ON THE CLIFFS AND WITHIN THE WATERFALL RAVINES OF SWALEDALE

TIM LAURIE

Work in Progress

Records are to be added on a day to day basis.

Initial priority will be to complete the records for Area 1 Upper Swaledale followed by records to

Areas 2-6 in sequence.

Thus, there will be few records in Areas 2-6 at present, but this situation will rapidly improve. Much fieldwork has been completed in all areas.

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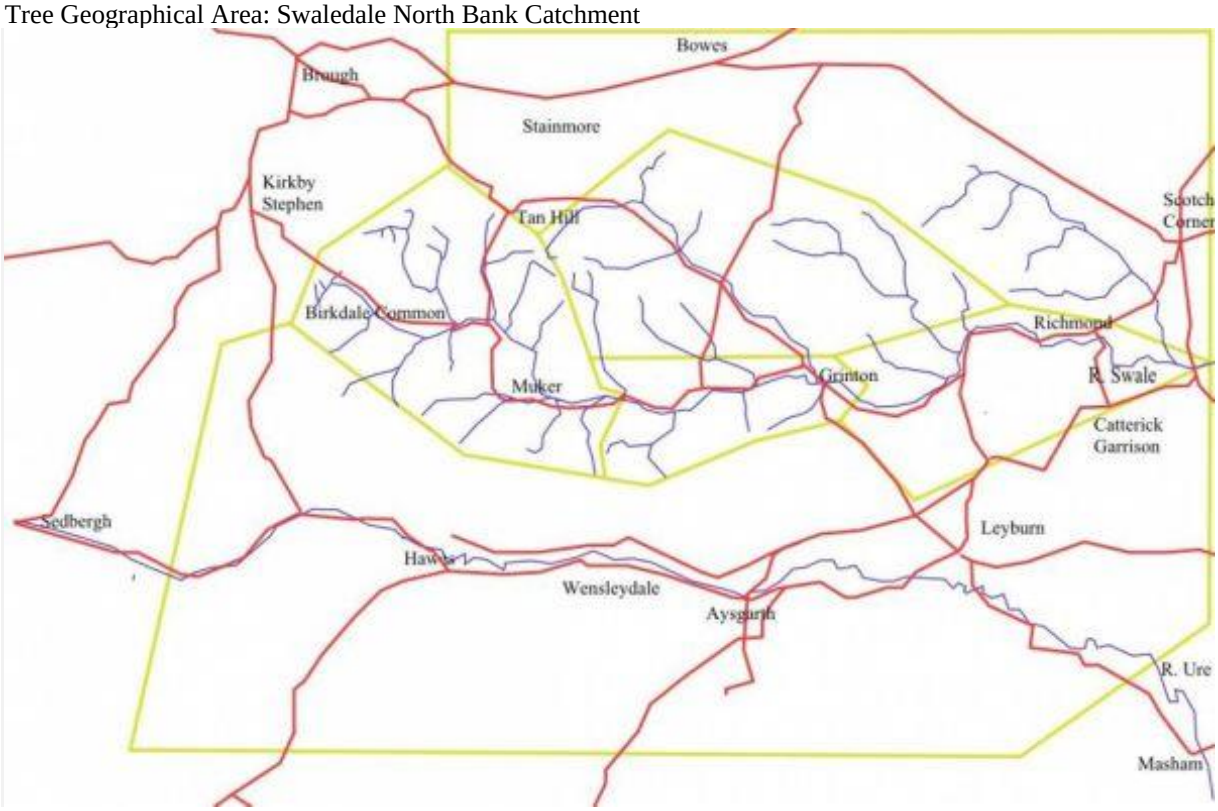
Swaledale Woodland Project

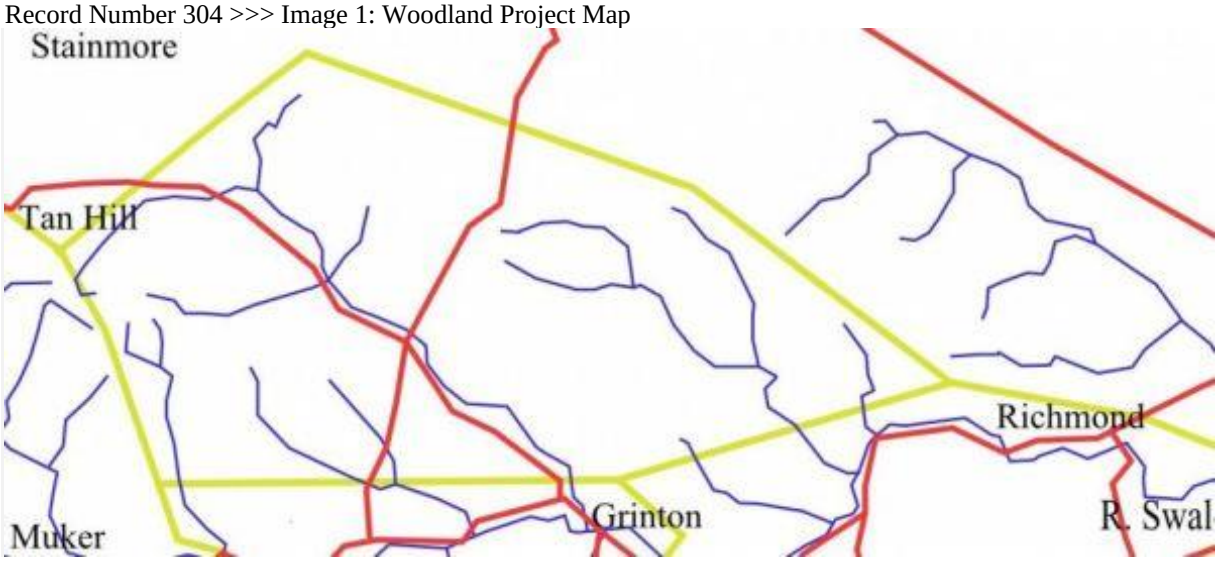
Tim Laurie

31 October 2011

Last Update: 2011-11-19
Tree Geographical Area: Swaledale North Bank Catchment



Record Number 304 >>> Image 1: Woodland Project Map



Record Number 304 >>> Image 2: Swaledale North Bank Catchment Section

Record Name: Stainmore
SWAAG ID Number: 305
Recorded Date: 2011-11-03 08:42:50
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Record Date: 0000-00-00
Location: Stainmore
Civil Parish: Not known
British National Grid:
Description: Relict Woodland on the Cliffs and Waterfall Ravines of Swaledale

Part One: Upper Swaledale

Work in Progress as at 31 October 2011

Introduction and Scope

This is a short introduction to a programme of current fieldwork designed to record the distribution of native tree species and woodland fragments throughout the River Swale catchment, west of Richmond.

My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.
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In Swaledale as elsewhere, very different woodland vegetation has developed in response to the soils derived from the abruptly changing rock strata - calcareous limestones succeeded by base poor sandstones and chert strata and from the glacial drift covered lower Dale Slopes.
Space does not permit an overview of the complex faulted Namurian strata of the study area and the reader is referred to Dunham and Wilson 1985. â€˜Geology of the Northern Pennine Orefield.â€™ Vol 2 Stainmore to Craven Geological Survey. HMSO. The interpretation of the of the complex faulted geological strata from the 1:50,000 scale BGS Map: England and Wales Sheets 40 and 41 Solid and Drift Edition requires specialist knowledge.

Accordingly, the most basic categorisation of localities has been adopted here:

Type A: Localities on the predominantly siliceous strata of Namurian Age above the top of the Main Limestone.

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Woodland vegetation at all localities can be modified by species selective extraction in connection with lead smelting and from lead mining operations.

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This is the first Part of a larger survey. For clarity the woodlands are to be described in six Sections within defined areas. Those within the Swale Catchment are to be described within Parts One to Four. For comparative purposes, woodland sites within the Ure Catchment (Wensleydale) are to be detailed within Part Five. Those to the north of Swaledale, and on Stainmore are detailed within Part Six.

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Plants, including trees, recorded at very many of the sites (marked * on Table 1) have been listed by LR.

Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Alan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

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1. Limestone ashwood with and without yew is limited to exposures at Type C and D Localities, on or below the top of the Main Limestone.

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Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex.

Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

3. Juniper has been recognised to date at more than 40 localities in the Swale Catchment at and upstream of Ellerton Scar and at all Type A-D localities.

4. The prostrate form of Juniper is thought to be present at all or most of the localities, however since this identification has not been formally confirmed by the BSBI, J. communis ssp nana has not yet been formally differentially noted in this record.

5. As elsewhere throughout the Uplands, the junipers which survive in Swaledale are usually single bushes or isolated populations of less than 4 bushes at any one Location. These junipers are not viable and, sadly recent rabbit ring barking has led to severe damage or the death of very many isolated junipers.

6. Juniper has not yet been found on Stainmore within the Greta Catchment but has recently been identified by LR together with aspen in Baldersdale. Both aspen and juniper are widespread elsewhere in Upper Teesdale.

7. No recent record of juniper in Wensleydale exists, (Millward, 1988). It is noticeable that while a scattered population of juniper exists on the low cliffs above Cliff Beck on the Swale side of the Pass below the Buttertubs Road, in contrast, the very similar limestone cliffs of Fossdale Beck just 1km south, across the Swale-Ure interfluve are devoid of juniper.

8. Yews are perhaps the most impressive of the relict woodland trees of the limestone scars of Swaledale and it seems very strange that the similar limestone cliffs of Wensleydale are devoid of yews, most of the high limestone Scars of Wensleydale are barren or of any woodland vegetation for that matter.

The cliff yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty and as a resource for future research. Many will, I am certain prove to be of immense age.

This is not the place to expand on their different forms, both multistem and maiden trees of great size and girth exist in the comparative shelter of the lower cliff face and on the top edge of the scree slopes. The cliff edge yews, stunted and many stemmed, are clearly of very great age. I have already recorded and am engaged in recording very many specimen yews and many other cliff trees of all species representative of the cliff trees present on the Woodland Trust ATH Website. Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities will be made available on the Swaledale and Arkengarthdale Archaeological Society website.

It has become apparent that the cliff yews may be cloned populations. Reproduction from root systems penetrating far through the limestone is likely. For example, at Deepdale above East Applegarth in Lower Swaledale, a quick count of a population of 22 yews comprised 20 berried female trees, one male and one inaccessible tree that could not be identified as male or female.

Finally, the effects on the stability of limestone cliffs from penetration of root systems of large yews is worthy of note. Exposed yew root systems, python like, can be seen to extend across and down the face of many of the limestone cliffs. These large root systems must have once penetrated the massive limestone through very small fissures. Once present these roots expand and completely destabilise the cliff face leading to continuous rock falls and building of scree.

9. Discussion of aspen, juniper and yew should not deflect attention or detract from the significant populations of trees of other species - ash, wych elm, bird cherry, gean, hazel, rose spp rowan, rare rock whitebeam, sallows and other willow species, all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.

10. The risk that yews, alders, elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of yews at West Applegarth includes a significant and growing number of recently dead trees.
This dire situation needs to be monitored under a programme of research from a British University, at local level.

11. Finally, and perhaps most significantly, I shall draw attention to the existence of a extensive and healthy population of large leafed lime trees, Tilia platyphyllos, mostly managed coppice but also self coppiced ancient trees on the face and top edge of sheer limestone cliffs. in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south facing cliffs eastward from West Applegarth, beyond Willanceâ€™s Leap to Whitecliffe Woods. The presence of large leafed limes, Tilia platyphyllos in Swaledale, at the northern limit for this species in Britain was, I believe, first recognised by Professor C.D. Pigott.

Future contamination from planting schemes.

I know that I shall be treading on toes in expressing my view that the planting of inappropriate â€˜berriedâ€™ shrubs (ie hawthorn) in vast numbers above sheltered ravines with native woodland which includes blackthorn but largely excludes hawthorn will have long term effects which are not understood. The effects of this extensive planting on the native woodlands nearby are uncertain.
As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff at Hooker Mill Hole where a fine population of aspen, juniper (prostrate form) and ancient yews is now (hopelessly) competing for space with a flourishing population of self seeded european larch which originates from a small mature plantation located below the cliff. Larch are fine desirable landscape trees and the plantation was made for admirable reasons probably with no knowledge of the significance of the presence on the limestone cliff above the plantation, of a native refuge for aspen, juniper and yew. The indiscriminate planting of tree species of â€˜nursery stockâ€™ of unknown genetic origins all across the Yorkshire Pennines may have similar unforeseen consequences.

Similarly, DNA analysis can now determine the early post-glacial origins of the British Flora. The planting of trees and plants of distant lowland stock of unknown heredity sourced from nurseries competing on price may compromise the present valuable resource of surviving native woodland communities for future research.

The Woodland Localities

Generally

Woodland localities on the Upper Swale and on each of the principal feeder tributary streams within the Parish of Muker will be grouped together and briefly described (to follow) and are summarised as Table 1 (to follow).

Each of the locations detailed have their individual character, each an isolated fragment of woodland vegetation reflecting differing soils derived from abruptly changing geological strata, aspect, aridity and exposure to climatic conditions all of which may vary in the space of a few metres from shelter within steep sided waterfall ravines to the extremes of exposure and aridity on and below the highest Scars. Swaledale offers a fine opportunity to see woodland plant communities which reflect the full spectrum of exposure, and their own hard life history.
It is very clear that the relative accessibility to grazing animals, primarily rabbits, determines the present

survival of plant communities at all locations.

It is also clear that isolated small and non viable populations of juniper, yew, wych elm, and other tree species are currently subject to sudden death from several known and unknown causes. The primary aim of this account of isolated woodland communities is to draw attention to the presence of these locations, primarily as fragments of relict woodland, once widespread, which merit the most careful conservation. These localities are significant places in their own right with ancient trees of the highest sculptural and cultural value reflecting their long hard life and now subject to active and severe threats to their continued existence.

I have defined Upper Swaledale advisedly, since the Main Limestone- well seen at Cotterby Scar, the fine limestone cliff above Wainwath Falls, marks the transition from the Visean Limestone Series to the predominantly siliceous Namurian Series of Carboniferous Rock Strata. This transition also marks a change from the potentially calcareous vegetation on and below the Main Limestone to the predominantly acidic vegetation on the base poor cherts, sandstones and mudstone overlying the Main Limestone.

In fact the rock strata of the study area are abruptly and so severely faulted so that the top of the Main Limestone, 345m on Cotterby Scar at Wainwath Falls is at 500m elevation some 5km to the south east at Long Scar, Great Sleddale.

Thus, I have been able to summarise 38 localities on or below the Main Limestone and 22 localities stratigraphically above the Main Limestone. This is work in progress and 10 known localities in Upper Swaledale have not yet been visited. See Table 1.

During this fieldwork it became apparent that strongly calcareous, tufa forming seepages or springs were present at locations with sandstones and mudstone strata, usually just above stream level. Local enrichment from these springs required separate discussion of these sites from the otherwise wholly acidic vegetation- as Type B sites.

Special emphasis is due to the presence of aspen, juniper, willow spp and bird cherry - survivors of pioneering woodland communities, present in Swaledale from early post glacial time.

To follow shortly, as additional to this Introductory Geographical Account :-

1. The Relict Woodland Localities in their landscape setting - a brief description of the woodland fragments on the Upper Swale and at each of the tributary streams of the Upper Swale.
2. Table One: Upper Swaledale - Gazetteer of Sites in the Parish of Muker.
Additional Notes: PROJECT SUMMARY:

RELICT WOODLAND ON THE CLIFFS AND WITHIN THE WATERFALL RAVINES OF SWALEDALE

TIM LAURIE

Work in Progress

Records are to be added on a day to day basis.

Initial priority will be to complete the records for Area 1 Upper Swaledale followed by records to

Areas 2-6 in sequence.

Thus, there will be few records in Areas 2-6 at present, but this situation will rapidly improve. Much fieldwork has been completed in all areas.

SUMMARY

This is a short introduction to a programme of current fieldwork designed to record the distribution of native tree species and woodland fragments throughout the River Swale catchment, west of Richmond.

My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.

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Preliminary conclusions on the data:

While much fieldwork has been completed within the whole of the study area, the following remarks apply principally to Upper Swaledale where records are most advanced. See map.

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or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex. Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

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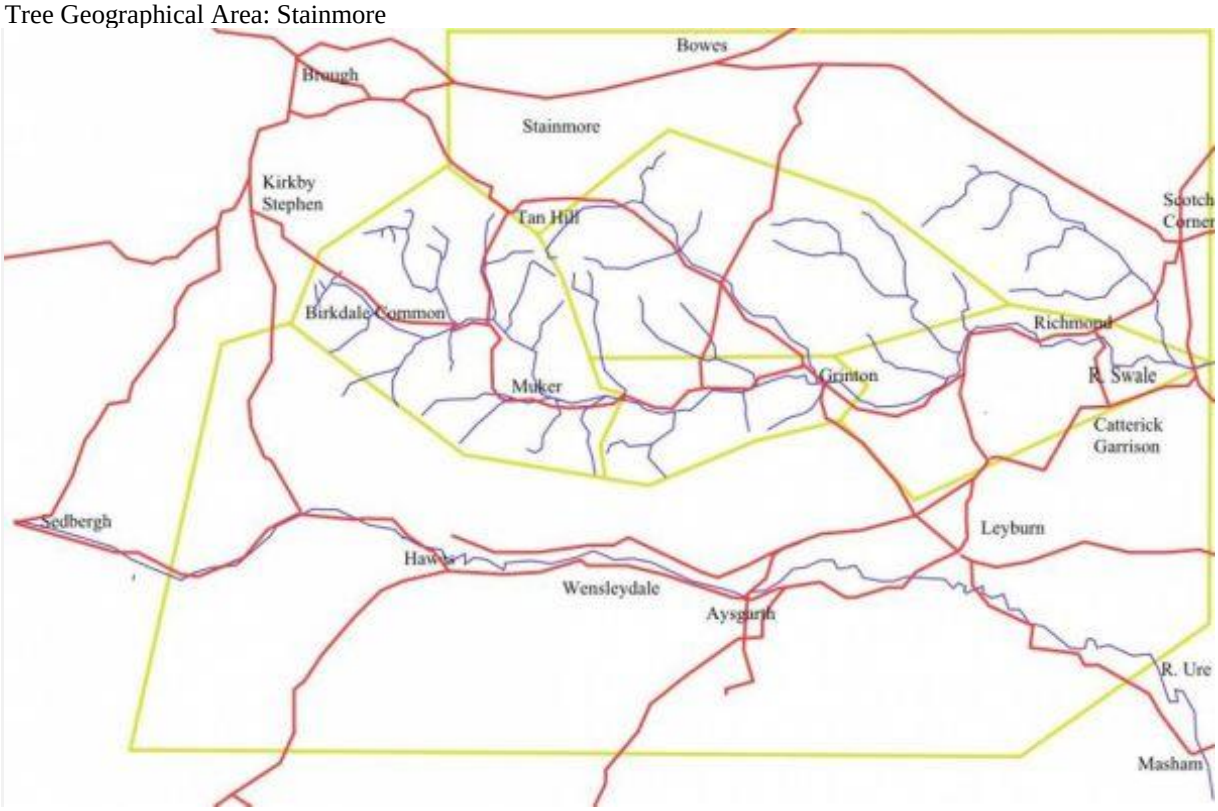
Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities are available on the Swaledale and Arkengarthdale Archaeological Society website:

Swaledale Woodland Project

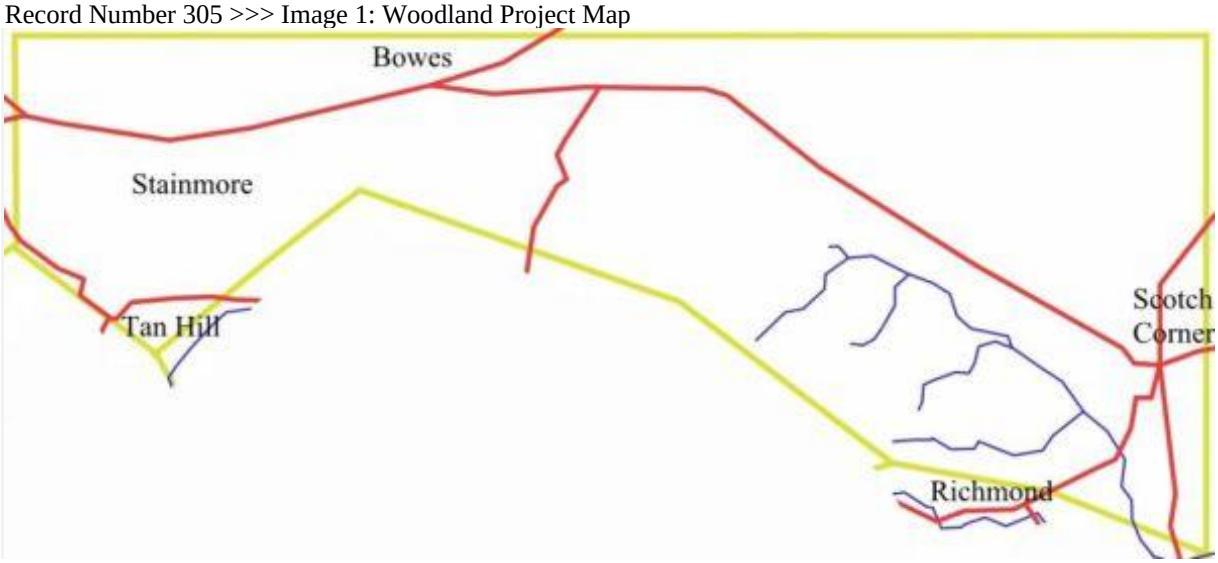
Tim Laurie

31 October 2011

Last Update: 2011-11-19
Tree Geographical Area: Stainmore



Record Number 305 >>> Image 1: Woodland Project Map



Record Number 305 >>> Image 2: Stainmore Section

Record Name: Wensleydale
SWAAG ID Number: 306
Recorded Date: 2011-11-03 08:44:52
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Record Date: 2011-11-03
Location: Wensleydale
Civil Parish: Not known
British National Grid:
Description: Relict Woodland on the Cliffs and Waterfall Ravines of Swaledale

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This is not the place to expand on their different forms, both multistem and maiden trees of great size and girth exist in the comparative shelter of the lower cliff face and on the top edge of the scree slopes. The cliff edge yews, stunted and many stemmed, are clearly of very great age. I have already recorded and am engaged in recording very many specimen yews and many other cliff trees of all species representative of the cliff trees present on the Woodland Trust ATH Website. Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities will be made available on the Swaledale and Arkengarthdale Archaeological Society website.

It has become apparent that the cliff yews may be cloned populations. Reproduction from root systems penetrating far through the limestone is likely. For example, at Deepdale above East Applegarth in Lower Swaledale, a quick count of a population of 22 yews comprised 20 berried female trees, one male and one inaccessible tree that could not be identified as male or female.

Finally, the effects on the stability of limestone cliffs from penetration of root systems of large yews is worthy of note. Exposed yew root systems, python like, can be seen to extend across and down the face of many of the limestone cliffs. These large root systems must have once penetrated the massive limestone through very small fissures. Once present these roots expand and completely destabilise the cliff face leading to continuous rock falls and building of scree.

9. Discussion of aspen, juniper and yew should not deflect attention or detract from the significant populations of trees of other species - ash, wych elm, bird cherry, gean, hazel, rose spp rowan, rare rock whitebeam, sallows and other willow species, all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.

10. The risk that yews, alders, elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of yews at West Applegarth includes a significant and growing number of recently dead trees.
This dire situation needs to be monitored under a programme of research from a British University, at local level.

11. Finally, and perhaps most significantly, I shall draw attention to the existence of a extensive and healthy population of large leafed lime trees, Tilia platyphyllos, mostly managed coppice but also self coppiced ancient trees on the face and top edge of sheer limestone cliffs. in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south facing cliffs eastward from West Applegarth, beyond Willanceâ€™s Leap to Whitecliffe Woods. The presence of large leafed limes, Tilia platyphyllos in Swaledale, at the northern limit for this species in Britain was, I believe, first recognised by Professor C.D. Pigott.

Future contamination from planting schemes.

I know that I shall be treading on toes in expressing my view that the planting of inappropriate â€˜berriedâ€™ shrubs (ie hawthorn) in vast numbers above sheltered ravines with native woodland which includes blackthorn but largely excludes hawthorn will have long term effects which are not understood. The effects of this extensive planting on the native woodlands nearby are uncertain.
As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff at Hooker Mill Hole where a fine population of aspen, juniper (prostrate form) and ancient yews is now (hopelessly) competing for space with a flourishing population of self seeded european larch which originates from a small mature plantation located below the cliff. Larch are fine desirable landscape trees and the plantation was made for admirable reasons probably with no knowledge of the significance of the presence on the limestone cliff above the plantation, of a native refuge for aspen, juniper and yew. The indiscriminate planting of tree species of â€˜nursery stockâ€™ of unknown genetic origins all across the Yorkshire Pennines may have similar unforeseen consequences.

Similarly, DNA analysis can now determine the early post-glacial origins of the British Flora. The planting of trees and plants of distant lowland stock of unknown heredity sourced from nurseries competing on price may compromise the present valuable resource of surviving native woodland communities for future research.

The Woodland Localities

Generally

Woodland localities on the Upper Swale and on each of the principal feeder tributary streams within the Parish of Muker will be grouped together and briefly described (to follow) and are summarised as Table 1 (to follow).

Each of the locations detailed have their individual character, each an isolated fragment of woodland vegetation reflecting differing soils derived from abruptly changing geological strata, aspect, aridity and exposure to climatic conditions all of which may vary in the space of a few metres from shelter within steep sided waterfall ravines to the extremes of exposure and aridity on and below the highest Scars. Swaledale offers a fine opportunity to see woodland plant communities which reflect the full spectrum of exposure, and their own hard life history.
It is very clear that the relative accessibility to grazing animals, primarily rabbits, determines the present

survival of plant communities at all locations.

It is also clear that isolated small and non viable populations of juniper, yew, wych elm, and other tree species are currently subject to sudden death from several known and unknown causes. The primary aim of this account of isolated woodland communities is to draw attention to the presence of these locations, primarily as fragments of relict woodland, once widespread, which merit the most careful conservation. These localities are significant places in their own right with ancient trees of the highest sculptural and cultural value reflecting their long hard life and now subject to active and severe threats to their continued existence.

I have defined Upper Swaledale advisedly, since the Main Limestone- well seen at Cotterby Scar, the fine limestone cliff above Wainwath Falls, marks the transition from the Visean Limestone Series to the predominantly siliceous Namurian Series of Carboniferous Rock Strata. This transition also marks a change from the potentially calcareous vegetation on and below the Main Limestone to the predominantly acidic vegetation on the base poor cherts, sandstones and mudstone overlying the Main Limestone.

In fact the rock strata of the study area are abruptly and so severely faulted so that the top of the Main Limestone, 345m on Cotterby Scar at Wainwath Falls is at 500m elevation some 5km to the south east at Long Scar, Great Sleddale.

Thus, I have been able to summarise 38 localities on or below the Main Limestone and 22 localities stratigraphically above the Main Limestone. This is work in progress and 10 known localities in Upper Swaledale have not yet been visited. See Table 1.

During this fieldwork it became apparent that strongly calcareous, tufa forming seepages or springs were present at locations with sandstones and mudstone strata, usually just above stream level. Local enrichment from these springs required separate discussion of these sites from the otherwise wholly acidic vegetation- as Type B sites.

Special emphasis is due to the presence of aspen, juniper, willow spp and bird cherry - survivors of pioneering woodland communities, present in Swaledale from early post glacial time.

To follow shortly, as additional to this Introductory Geographical Account :-

1. The Relict Woodland Localities in their landscape setting - a brief description of the woodland fragments on the Upper Swale and at each of the tributary streams of the Upper Swale.
2. Table One: Upper Swaledale - Gazetteer of Sites in the Parish of Muker.
Additional Notes: PROJECT SUMMARY:

RELICT WOODLAND ON THE CLIFFS AND WITHIN THE WATERFALL RAVINES OF SWALEDALE

TIM LAURIE

Work in Progress

Records are to be added on a day to day basis.

Initial priority will be to complete the records for Area 1 Upper Swaledale followed by records to

Areas 2-6 in sequence.

Thus, there will be few records in Areas 2-6 at present, but this situation will rapidly improve. Much fieldwork has been completed in all areas.

SUMMARY

This is a short introduction to a programme of current fieldwork designed to record the distribution of native tree species and woodland fragments throughout the River Swale catchment, west of Richmond.

My intention is to publish a full account of the fieldwork in due course . For comparative purposes, adjacent areas within Wensleydale and the Tees-Greta Uplands (Stainmore) are also included. The area of this survey is very large and with few exceptions has been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.

I have been concerned with the recording of Archaeological Landscapes throughout Wensleydale, Swaledale and the Swale-Tees/Greta Uplands (my study area) for almost 40 years and was introduced to the significance of ancient woodland in the Landscape by Andrew Fleming. It followed that no real understanding of the nature of early human activity in the Pennine Uplands (based on hunting and transhumance) was possible without consideration to the contemporary prehistoric woodland environment.

My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest with plant communities reflecting different geology, aspect, aridity, accessibility and economic or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality which reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for vc 65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The survival of native woodland on the limestone scars and in the waterfall ravines of Wensleydale differs from that of Swaledale and today does not include juniper and only very rarely, yew. Aspen is common at lower elevations only. The vegetation of Stainmore does resemble that of Upper Swaledale except for the absence of juniper.

Plants, including trees, recorded at very many of the sites (marked * on Table 1) have been listed by LR. Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Allan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

Preliminary conclusions on the data:

While much fieldwork has been completed within the whole of the study area, the following remarks apply principally to Upper Swaledale where records are most advanced. See map.

1. Limestone ashwood with and without yew is limited to localities, on or below the top of the Main Limestone.

2. Aspen has been recorded in the Swale Catchment above the confluence of Arkle Beck at a total of more than 20 sites. Aspen records are usually for cloned colonies where old â€˜motherâ€™ trees and three

or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to determine whether these colonies are clones and of single sex. Elsewhere, aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck and is widespread throughout UpperTeesdale and also in Lower Wensleydale.

3. Juniper has been recognised to date at more than 40 localities in the Swale Catchment upstream of Ellerton Scar. The prostrate form of Juniper is thought to be present at all or most of the localities.

4. As elsewhere throughout the Uplands, the junipers which survive in Swaledale are usually single bushes or isolated populations of less than 4 bushes at any one Location. These junipers are not viable and, sadly recent rabbit ring barking has led to severe damage or the death of very many isolated junipers.

5. Juniper has not yet been found on Stainmore within the Greta Catchment but has recently been identified by LR together with aspen in Baldersdale. Both aspen and juniper are widespread elsewhere in Upper Teesdale.

6. No recent record of juniper in Wensleydale exists, (Millward, 1988).

7. Yews are perhaps the most impressive of the relict woodland trees of the limestone scars of Swaledale. The similar limestone cliffs of Wensleydale are devoid of yews, most of the high limestone Scars of Wensleydale are barren or of any woodland vegetation for that matter.
The cliff yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty and as a resource for future research. Many will, I am certain prove to be of immense age. It has become apparent that the cliff yews may be cloned populations.

8. Discussion of aspen, juniper and yew should not deflect attention or detract from the significant populations of trees of other species - ash, wych elm, bird cherry, gean, hazel, rose spp rowan, rare rock whitebeam, sallows and other willow species, all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.

9. The risk that yews, alders, elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of yews at West Applegarth includes a significant and growing number of recently dead trees. This dire situation needs to be monitored under a programme of research from a British University, at local level.

10. Finally, and perhaps most significantly, I shall draw attention to the existence of a extensive and healthy population of large leafed lime trees, Tilia platyphyllos, mostly managed coppice but also self coppiced ancient trees on the face and top edge of sheer limestone cliffs. in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south facing cliffs eastward from West Applegarth, beyond Willanceâ€™s Leap to Whitecliffe Woods. The presence of large leafed limes, Tilia platyphyllos in Swaledale, at the northern limit for this species in Britain was, I believe, first recognised by Professor C.D. Pigott.

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As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff at Hooker Mill Hole where a fine population of aspen, juniper (prostrate form) and ancient yews is now (hopelessly) competing for space with a flourishing population of self seeded larch which originates from a small mature plantation located below the cliff. See photograph.

The Woodland Localities Generally.

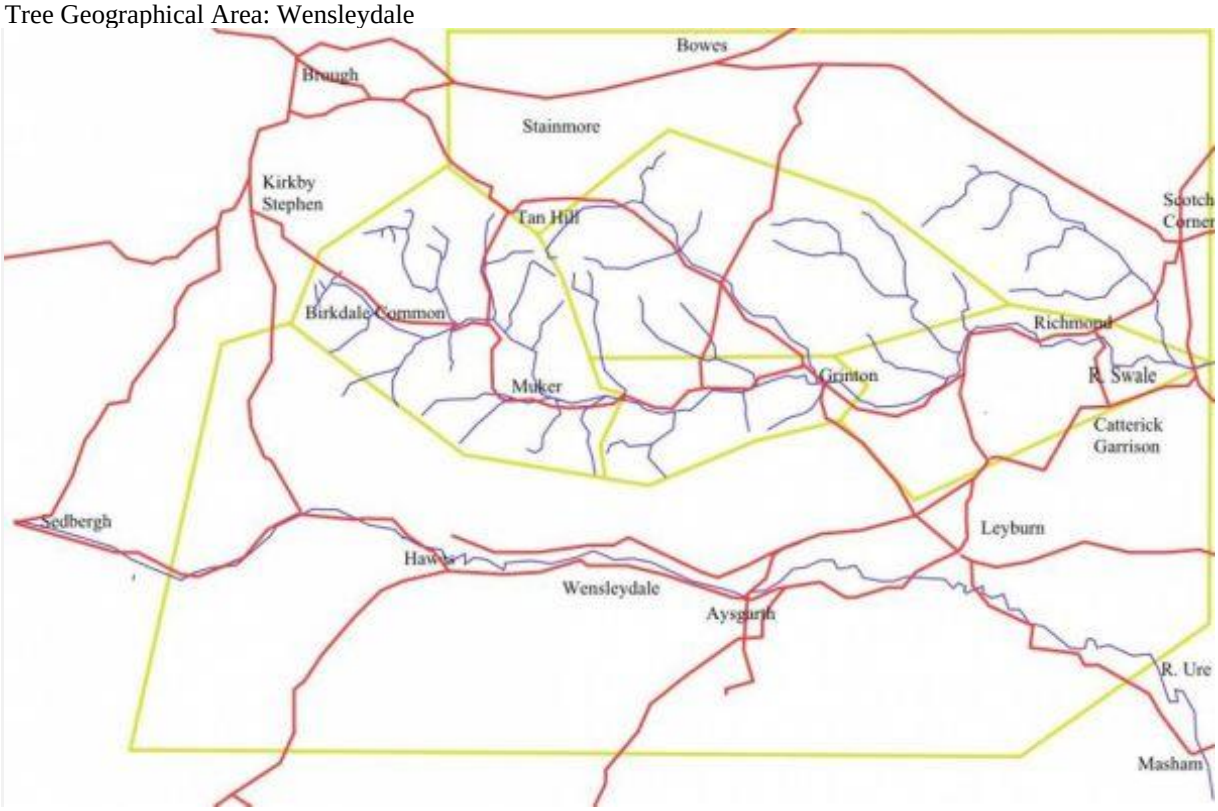
Detailed accounts of the woodland fragments in their landscape setting and including photographic portraits of all woodland localities are available on the Swaledale and Arkengarthdale Archaeological Society website:

Swaledale Woodland Project

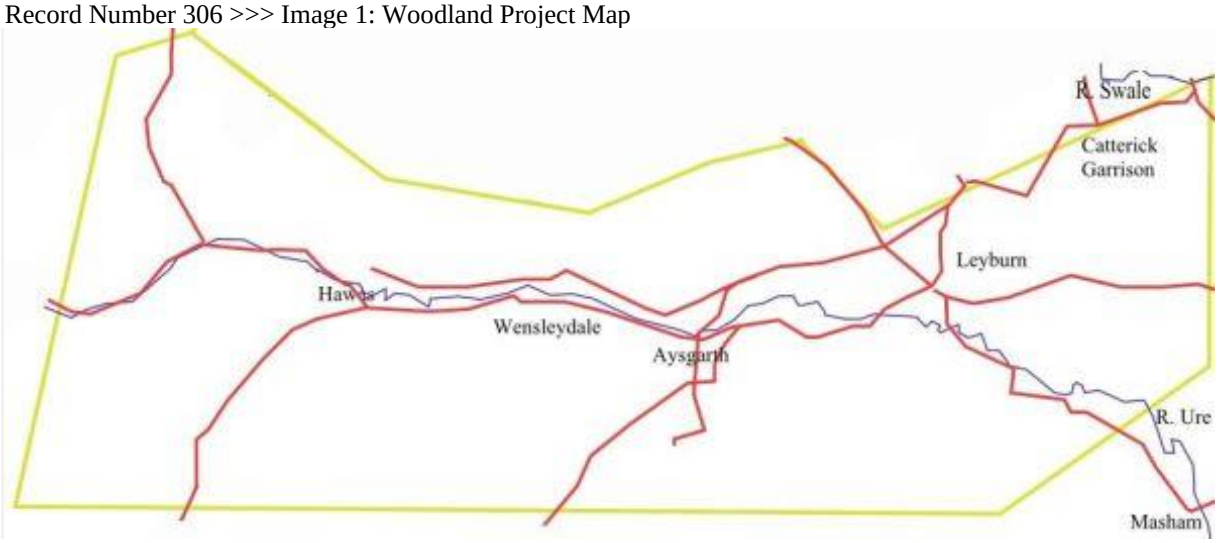
Tim Laurie

31 October 2011

Last Update: 2011-11-19
Tree Geographical Area: Wensleydale



Record Number 306 >>> Image 1: Woodland Project Map



Record Number 306 >>> Image 2: Wensleydale Section

Record Name: MUK000 Mallerstang Edge. Blanket peat remnant of once contiuous deep peat cover.
SWAAG ID Number: 358
Recorded Date: 2011-11-26 13:35:24
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Botanical HER
Site Access: Public Access Land
Record Date: 2011-09-30
Location: Birkdale Common
Civil Parish: Muker
British National Grid:
Altitude: 670m
Geology: Remnant of blanket peat on Swale-Eden Interfluve.
Description: Eroded peat fragments forming isolated islands indicative of a once continuous cover of blanket peat averaging 2-3mdeep.
These peat fragments are now completely isolated from one to the other. Each peat 'island' shaped by wind to the most elegant form, each capped by the once continous turf layer of heath vegetation. Each island is surrounded by a halo of bare stony ground where vegetation has not yet regrown.
These bare ground halos a measure of the rapidity of the loss of the peat from the Pennine Plateau.
No radio carbon dates or pollen reports are yet available to determine the different climate zones which are represented within this peat.
Dimensions: See photos
Last Update: 2011-12-03
Tree Geographical Area: Upper Swaledale

Record Number 358 >>> Image 1:

Record Number 358 >>> Image 2:

Record Number 358 >>> Image 3:

Record Number 358 >>> Image 4:

Record Number 358 >>> Image 5:

Record Name: A source of the Swale (where the gods shed a tear).
SWAAG ID Number: 361
Recorded Date: 2011-11-26 16:34:30
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2011-09-29
Location: High Seat. Source of the Swale.
Civil Parish: Muker
British National Grid:
Altitude: 470m
Description: Peat pool.
Dimensions: See photos
Last Update: 2011-11-26
Tree Geographical Area: Upper Swaledale

Record Number 361 >>> Image 1:

Record Name: Bellerby Moor and Bellerby Deer Park. A moorland landscape.
SWAAG ID Number: 433
Recorded Date: 2012-01-20 16:43:49
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Army Range
Record Date: 2012-01-15
Location: Bellerby Moor and Bellerby Deer Park
Civil Parish: Bellerby
British National Grid: SE 0895 9363
Altitude: 310m
Description: This is an overview and photo montage of a Pennine Moorland landscape soon to be changed for ever in the cause of National Defence by the construction of a new Small Arms Range. Bellerby Moor is an area of heather covered morainic hills and green grassy hollows infilled with wind blown loess. Areas of wetland are drained by small streams which rise at highly calcareous ,tufa forming springs located to the south of Black Beck on the interfluve between Swale and Ure. These streams cross the area to be levelled for the two lanes of the new Range to fall towards Park Gill and from thence to disappear into the Main Limestone which forms the Northern Edge of Wensleydale.
Additional Notes: The detailed archaeological landscape of Bellerby Moor is currently being mapped by SWAAG Members and each site will be recorded seperately on the SWAAG HER Database. This overview is an informal portrait of the area which has probably been overlooked and rarely visited except by occasional shooting parties and by 'vermin control' or rabbiters. Only recently have the wealth of geological, botanical, archaeological and mining remains been subjects for close record.
SWAAG Site: Bellerby Moor
Last Update: 2012-01-29

Record Number 433 >>> Image 1: Wetland at northern end of firing range. An island of heather marks the site of a possible burnt mound, to be investigated.

Record Number 433 >>> Image 2: Wetland at northern end of firing range. An island of heather marks the site of a possible burnt mound, to be investigated

Record Number 433 >>> Image 3: Burnt mound (see HER129) , view across the line of the new range towards Deerpark Plantation.

Record Number 433 >>> Image 4: Watercourse at NW Corner of Deerpark Plantation.

Record Number 433 >>> Image 5: SWAAG field work! Small buried cairn in pasture NW of Plantation.

Record Number 433 >>> Image 6: SWAAG Field visit. The drivable track.

Record Number 433 >>> Image 7: Burnt mound, see HER131, heather covered next watercourse above Park Gill.

Record Number 433 >>> Image 8: Burnt mound, see HER 131, heather covered next watercourse above Park Gill.

Record Number 433 >>> Image 9: Burnt mound, see HER133, heather covered next oncolite rich stream 75m below spring rise.

Record Number 433 >>> Image 10: Oncolites in stream bed

Record Number 433 >>> Image 11: Burnt mound, see HER 128, with abundant charcoal and burnt stone on rising ground at edge of loess infilled wetland.

Record Number 433 >>> Image 12: Burnt Mound as HER 128, view towards road.

Record Number 433 >>> Image 13: View across the area of the new range towards Deer Park Plantation

Record Number 433 >>> Image 14: Water course, only visible after heavy rain.Old Hawthorn a survivors of earlier woodland. Continuous heavy grazing prevents regeneration. Not colonising scrub as elsewhwere in lowland Britain.

Record Number 433 >>> Image 15: Burnt mound, see HER 131, heather covered next watercourse view to head of Park Gill.

Record Number 433 >>> Image 16: Burnt mound shrouded below heather at oncolite spring rise.

Record Number 433 >>> Image 17: Burnt mound shrouded below heather at oncolite spring rise.

Record Number 433 >>> Image 18: Burnt mound shrouded below heather at oncolite spring rise.

Record Number 433 >>> Image 19: Black Beck. An ice margin channel resulting in an over large valley for the stream.

Record Number 433 >>> Image 20: Black Beck.

Record Number 433 >>> Image 21: Black Beck.

Record Number 433 >>> Image 22: Characteristic watercourse onl visible after heavy rain. Burnt mound under heather

Record Number 433 >>> Image 23: Ancient hawthorn on footprint of Range. Soon to be removed.

Record Number 433 >>> Image 24: Ancient Hawthorn. These old trees are impervious to sheep but cannot regenerate and are the sole survivos of woodland

Record Name: Photographic montage of Bellerby Moorand Bellerby Deer Park in advance of construction of New Range. Part Two.
SWAAG ID Number: 442
Recorded Date: 2012-01-29 12:37:17
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Army Range
Record Date: 2012-01-28
Location: Bellerby Moor Ranges and Bellerby Deer Park.
Civil Parish: Bellerby
British National Grid: SE 088 934
Altitude: 315m
Geology: Morainic hills with loess infilled depressions and tufa forming springs. Faulted namurian Strata with economic coal seam at the eastern extremity of the Preston Moor Colliery
Description: This is Part Two (See also HER 433) of an overview and photo montage of a Pennine Moorland landscape soon to be changed for ever in the cause of National Defence by the construction of a new Small Arms Range.
Bellerby Moor is an area of heather covered morainic hills and green grassy hollows infilled with wind blown loess. Areas of wetland are drained by small streams which rise at highly calcareous ,tufa forming springs located to the south of Black Beck on the interfluve between Swale and Ure. These streams cross the area to be levelled for the two lanes of the new Range to fall towards Park Gill and from thence to disappear into the Main Limestone which forms the Northern Edge of Wensleydale.
This area, within the Pennine Moors SSSI, has a wealth of sites of high landscape and specialist interest including Geological, Geomorhological, Botanical, Mining,Historical and Archaeological Features.
Each of these specialist fetaures will be recorded seperately as specific records on the SWAAG HER in order to place on record the context of these sites and quality of this moorland landscape prior to construction of the New Range.
The photographs which are attached to this record were all taken during a field visit to Bellerby Moor by Swaag Members on Saturday 28th January 2012.
Dimensions: See photographs.
Additional Notes: The detailed archaeological landscape of Bellerby Moor is currently being mapped by SWAAG Members and each site will be recorded seperately on the SWAAG HER Database. This overview is an informal portrait of the area which has probably been overlooked and rarely visited except by occasional shooting parties and by 'vermin control' or rabbiters. Only recently have the wealth of geological, botanical, archaeological and mining remains been subjects for close record.
SWAAG Site: Bellerby Moor
Last Update: 2012-04-07

Record Number 442 >>> Image 1: View Southward from Park Gill Beck Head towards the recently discovered Barrow. Photo: Ric Carter.

Record Number 442 >>> Image 2: Bellerby Range in winter from road.

Record Number 442 >>> Image 3: Coal pit and oak tree

Record Number 442 >>> Image 4: Small depression, once open water fed by tufa springs, with 18C AD coal pits an 18C BC burnt mound

Record Number 442 >>> Image 5: Ancient hawthorn, one of several similar trees on the Range.

Record Number 442 >>> Image 6:

Record Number 442 >>> Image 7:

Record Number 442 >>> Image 8: Hollow Ways, the roads to the Preston Moor Colliery and Plantation.

Record Number 442 >>> Image 9: Approach to the small standing stone and barrow with views southward to the Vale of Mowbray

Record Number 442 >>> Image 10: At the hengiform barrow

Record Number 442 >>> Image 11: Lunch at Park Gill Head Beck

Record Number 442 >>> Image 12: Chara aspera in Park Gill Beck. An indicator of highest water quality.

Record Number 442 >>> Image 13: Chara aspera in Park Gill Beck.

Record Number 442 >>> Image 14: Tufa coated stone with algal colonies from bed of stream, Park Gill Beck.

Record Number 442 >>> Image 15: Northern end of proposed new range and view towards Whinfell.

Record Number 442 >>> Image 16:

Record Number 442 >>> Image 17: Hollow way leaving Black Beck Gill

Record Number 442 >>> Image 18: Northern end of proposed new range.

Record Number 442 >>> Image 19: Black Beck House

Record Name: Winter Ings. A ruined Farmer-Miner Landscape in winter.
SWAAG ID Number: 452
Recorded Date: 2012-02-05 14:06:20
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Public Footpath
Record Date: 2012-01-03
Location: Melbecks. Winter Ings
Civil Parish: Melbecks
British National Grid: SD 94 99
Altitude: 400m to 450m
Geology: Colluvial soils over shales below Underset Limestone
Description: Photographed on a very cold winter's day day on 03 February 2012, one wonders how any one could feed a cow here let alone a family. But indeed several families lived here, as farmers and miners they would have made best use of their small holdings. For links to the The 1841 census, see: http://www.gunnerside.info/
Additional Notes: Close examination of two photographs taken under snow reveals the presence of further rectangular buildings in the pastures beween the ruined cottage and the distant barn.
Last Update: 2012-02-05

Record Number 452 >>> Image 1: Winter Ings. A Farmer-Miner Landscape in winter

Record Number 452 >>> Image 2: Stony ground. Ric deep in thought.

Record Number 452 >>> Image 3: The front of this 17C cottage faces south, no table for tea here today.

Record Number 452 >>> Image 4: Curved gable end characteristic of a cruck constructed roof and ling thatch.

Record Number 452 >>> Image 5: Winterings

Record Number 452 >>> Image 6: Winterings, careful examinationreveals the foundations of earlier recangular buildings in the pasture between the cottage and distant barn.

Record Number 452 >>> Image 7: As last

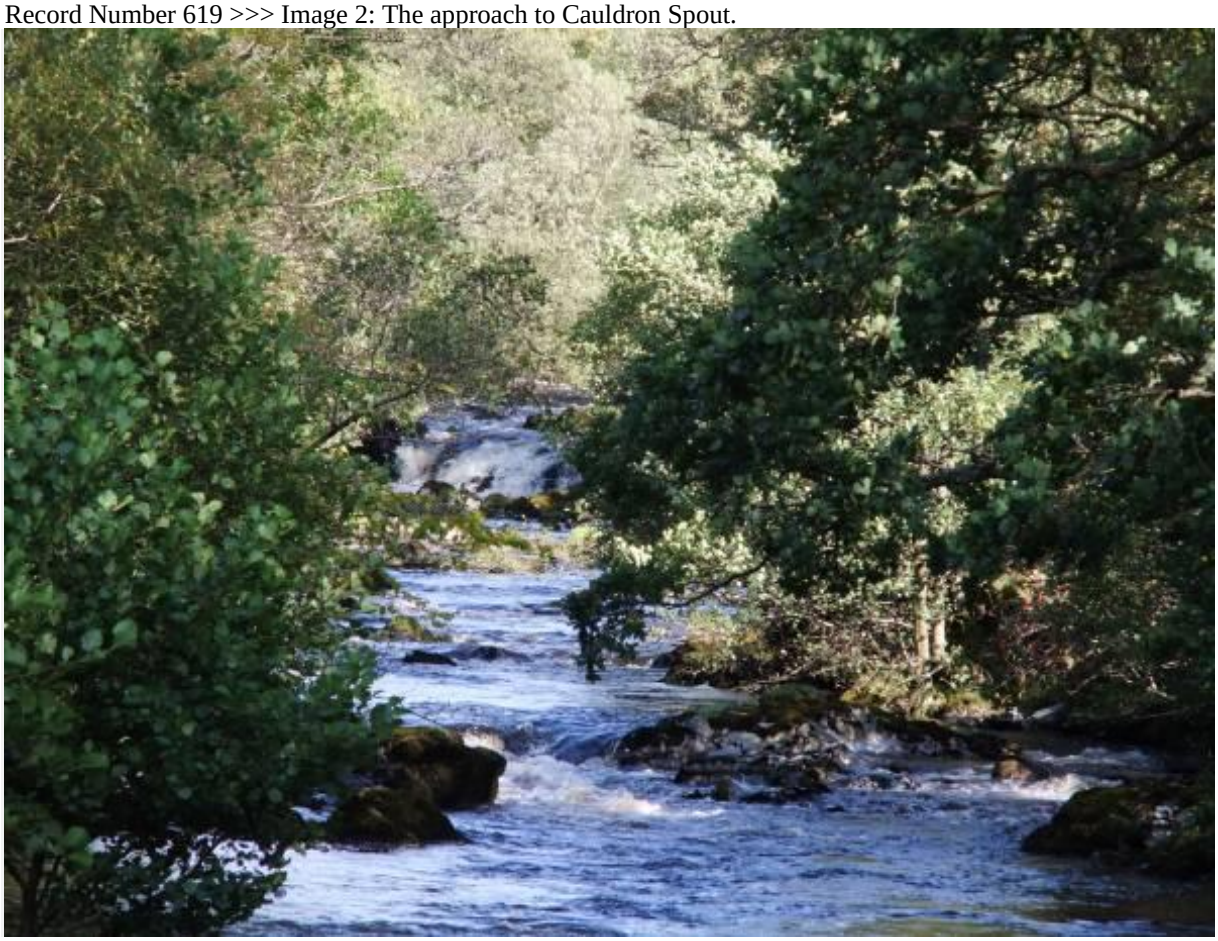
Record Number 452 >>> Image 8: Solitary ash tree. Sole survivor of previous woodland .

Record Name: The Howgill Fells. Cautley Crags,Cautley Spout and Settlement of Romano British character.
SWAAG ID Number: 619
Recorded Date: 2012-10-10 16:09:22
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Northern Britain
Site Access: Public Footpath
Record Date: 2012-10-01
Location: Sedbergh CP. Footpath to Cautley Spout Waterfall.
Civil Parish: Not known
British National Grid: SD 683 975
Altitude: 310m
Geology: The Howgill Dome. Older Palaeozoic (Pre Old Red Sandstone).
Glacial corrie and hanging valley (Cautley Crags).
Stream cut ravine with continuous waterfalls (Cautley Spout).
Description: Relatively easy hill walk on made trackway to see the impressive glacial corrie and hanging valley at Cautley Crags, Cautley Spout waterfall and ravine (CARE needed here) and to search for and (with the assistance of an information panel), attempt to interpret the earthworks of a Late Iron Age/Native Roman Settlement located on a river terrace and crossed by the Public Footpath. Careful searching is required to identify the ancient trackway which runs through the settlement to the base of the waterfall. This trackway may or may not be contemporary with the Romano British Settlement.
Dimensions: See on site information panel.
Additional Notes: The settlement enclosure consists of a substantial curvilinear stone dump bank with some surviving facing stones. The round houses within the enclosure are defined by circular stone banks or small platforms and by changes of vegetation- but not very easy to interpret on the ground, but an interesting exercise of recently aquired archaeological fieldwork skills! This settlement is one of a number of similar settlements on the fringe of the Howgill Fells.

Last Update: 2012-10-11

Record Number 619 >>> Image 1: Cautley Crags from the bridge over the River Rawthey

Record Number 619 >>> Image 2: The approach to Cauldron Spout.



Record Number 619 >>> Image 3: The River Rawthey from the footbridge.

Record Number 619 >>> Image 4: Approach to the Falls.

Record Number 619 >>> Image 5: The on-site information panel.

Record Number 619 >>> Image 6: The on-site information panel.


Record Number 619 >>> Image 7: The on-site information panel.

Record Number 619 >>> Image 8: Washfold.

Record Number 619 >>> Image 9: The lower ravine with native woodland,including ash, holly,hazel, rowan, and two junipers. Wych elm and Sallows are absent.

Record Number 619 >>> Image 10: ASh coppard.

Record Number 619 >>> Image 11: View downstream.

Record Number 619 >>> Image 12: Holly.

Record Number 619 >>> Image 13: Lower falls and ravine.

Record Number 619 >>> Image 14: Two isolated juniper bushes.

Record Number 619 >>> Image 15: The Falls. Have Care! Approach no closer to the edge than this!

Record Number 619 >>> Image 16: Cautley Crags and the Corrie.

Record Number 619 >>> Image 17: View downstream.

Record Number 619 >>> Image 18: Cautley Crags and the Corrie.

Record Number 619 >>> Image 19:

Record Number 619 >>> Image 20: The trackway at the settlement.

Record Number 619 >>> Image 21: The settlement.

Record Name: Upper Teesdale. Small tarns below Cronkley Scar.
SWAAG ID Number: 634
Recorded Date: 2012-11-02 14:54:59
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2012-11-01
Location: Upper Teesdale. Tarn Dub below Cronkley Scar
Civil Parish: Holwick
British National Grid:
Altitude: 420m
Geology: Small tarns on kame terrace behind prominant protallus rampart at the front of Cronkley Scar.
Description: Small tarns below Cronkley Scar, a hidden lake district!
Dimensions: See photos
Last Update: 2012-11-02

Record Number 634 >>> Image 1:

Record Number 634 >>> Image 2:

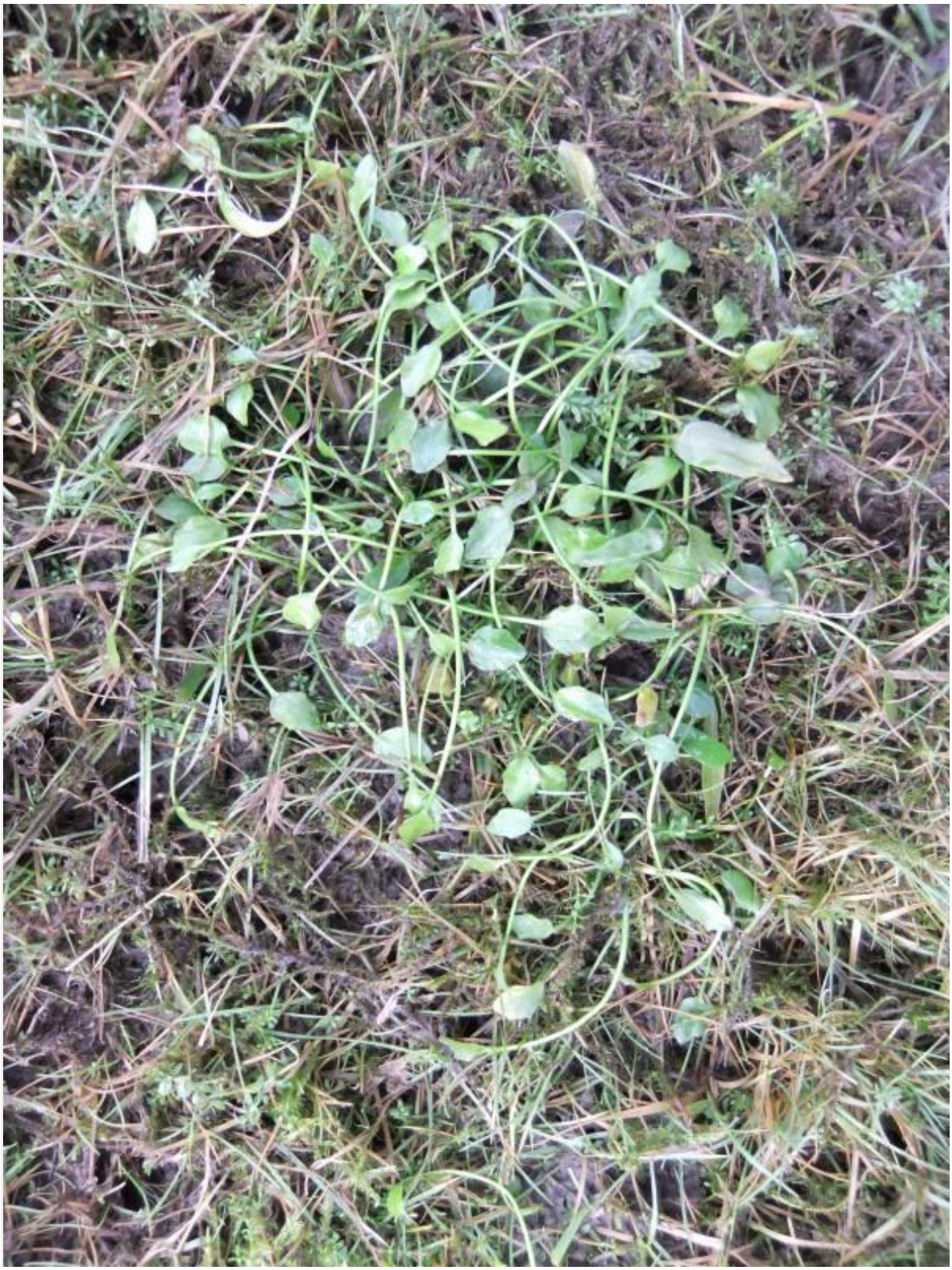
Record Number 634 >>> Image 3:

Record Number 634 >>> Image 4:

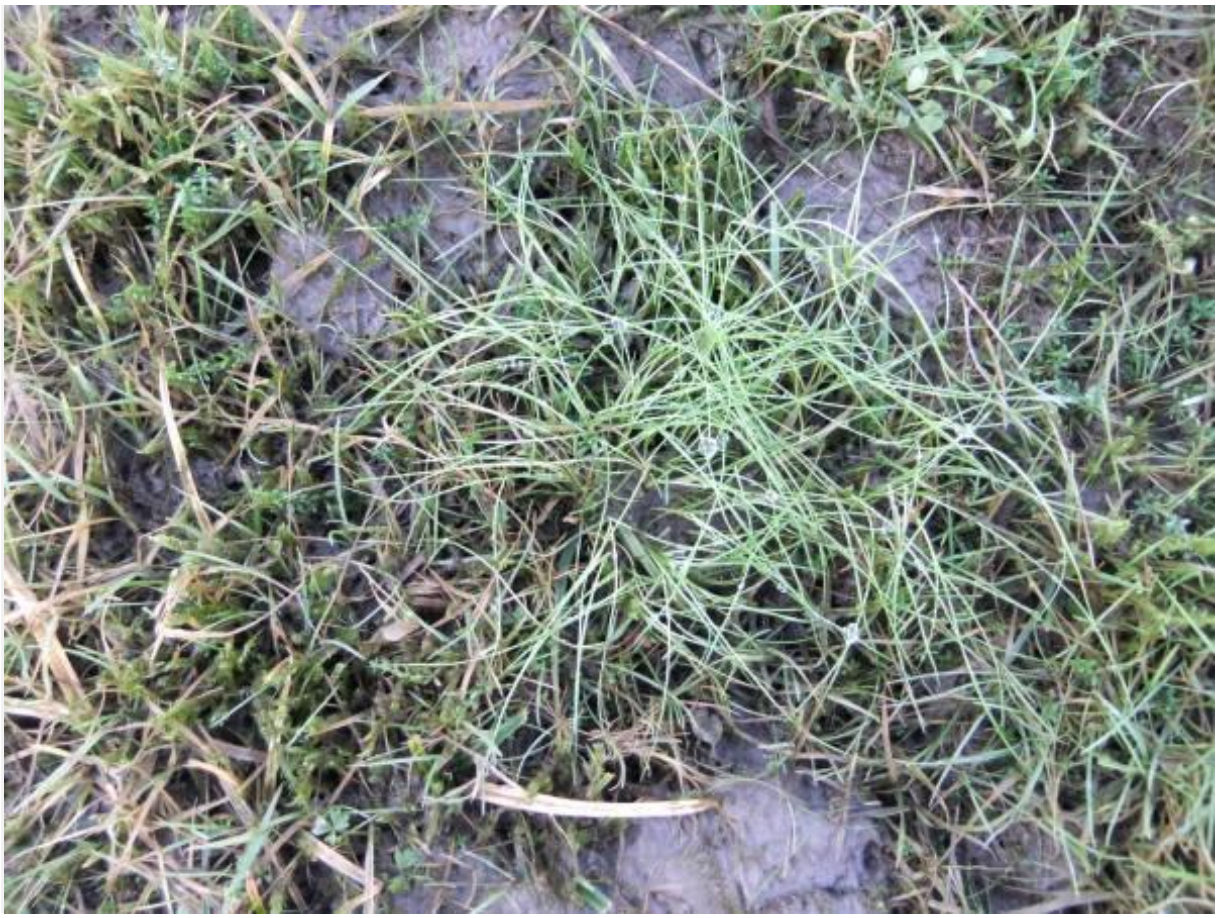
Record Number 634 >>> Image 5:

Record Number 634 >>> Image 6:

Record Number 634 >>> Image 7:



Record Number 634 >>> Image 8:



Record Number 634 >>> Image 9:

Record Name: Grinton Church and Bridge from The Hagg, Fremington. Autumn colour.
SWAAG ID Number: 638
Recorded Date: 2012-11-07 21:06:39
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Record Date: 2012-11-07
Location: Grinton
Civil Parish: Grinton
British National Grid:
Altitude: 186m
Geology: River Swale
Description: Telephoto images of Grinton,Grinton Pastures and Harkerside Moor from The River Swale to High Harker Hill, on a fine day from the excavations at The Hagg, Fremington.
Last Update: 2012-11-07

Record Number 638 >>> Image 1: Grinton, the Church and Bridge in autumn colour

Record Number 638 >>> Image 2: Grinton, from the Swale to High Harker Hill

Record Name: Landscape and prehistory on Goldsborough Hill, Cotherstone Moor.
SWAAG ID Number: 645
Recorded Date: 2012-11-24 11:55:41
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Northern Britain
Site Access: Public Access Land
Record Date: 2012-11-23
Location: Cotherstone Moor, Goldsborough Hill and Goldsborough Rigg.
Civil Parish: Cotherstone
British National Grid: NY 955 177
Altitude: 383m
Geology: Isolated 'nunatak' like hill capped with thick current bedded sandstones and with an elongated attached eastern ridge of boulder clay (crag and tail). This hill may look as though it had diverted the Stainmore Glacier, however the presence of two Lake District erratic boulders on the summit show that the glacier had over topped Shackleborough.
Description: This is a small photographic introduction to Goldsborough Hill, which together with Shacklesborough Hill some 5km further west, are prominent and isolated sandstone capped hills, distinctivelandmark features with special geological and prehistoric interest within a fine Teesdale Pennine Landscape,at the wild northern edge of Stainmore.
Dimensions: See photographs.
Additional Notes: See captions to photographs.
Individual features and archaeological sites on Goldsborough Hill, on Shacklesborough and at West Loups on the Battle Hill Ranges 2km to the east will be recorded severally and in more detail in further following SWAAG records.
Last Update: 2012-11-24

Record Number 645 >>> Image 1: Goldsborough from the Pennine Way, Bowes Diversion.

Record Number 645 >>> Image 2: Goldsborough, the southern crags.

Record Number 645 >>> Image 3: Goldsborough. View westward towards Shacklesborough from the summit.

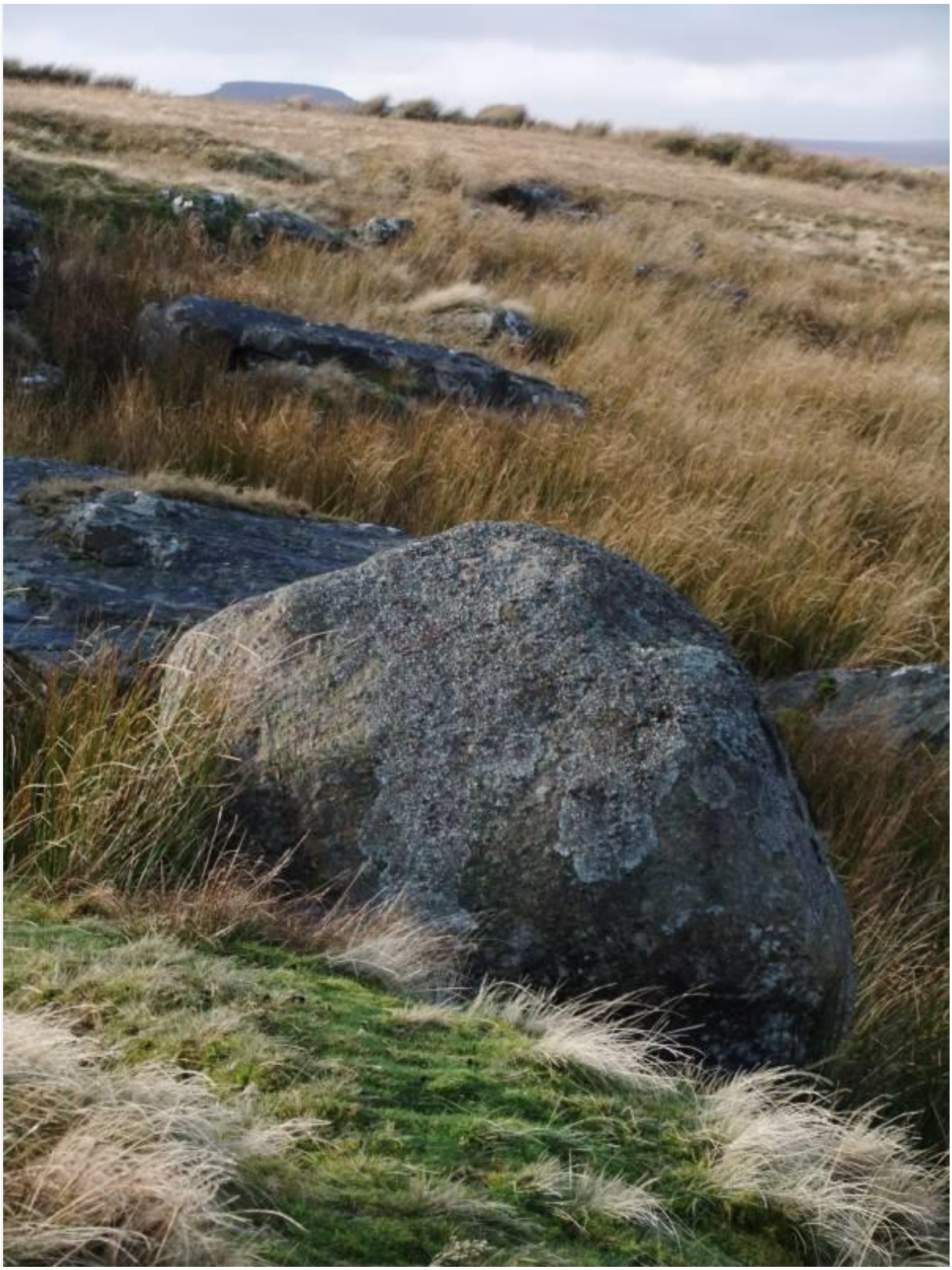
Record Number 645 >>> Image 4: View eastward.

Record Number 645 >>> Image 5: The ring cairn on the summit, part concealed by soft rush growth.
There is a Bronze Age round barrow on Shacklesborough 5km further west.

Record Number 645 >>> Image 6: Goldsborough Rigg. Cup and ring marked rock.

Record Number 645 >>> Image 7: Fourtrack ruts leading straight across the cup and ring marked rock. Perhaps local farmers should be specifically notified of the existence and location of all cup and ring marked rocks.

Record Number 645 >>> Image 8: Goldsborough. Shap erratic boulder and quarried sandstone outcrop.



Record Number 645 >>> Image 9: The Shap erratic boulder perched near an old quarry face on the summit. This very large granite boulder, glacially transported from the eastern edge of the Lake District provides evidence that the Stainmore Ice overtopped this sandstone hillock.

Record Number 645 >>> Image 10: The Shap erratic boulder

Record Number 645 >>> Image 11: The Shap erratic boulder

Record Number 645 >>> Image 12: Small boulder of Lake District volcanic rock (Borrowdale Volcanic ash) glacially transported and deposited on the summit of Goldsborough by the Stainmore Ice stream.

Record Name: Coney Seat Hill and the Stainmore Trough seen through Dale Head from Hungry Hushes
SWAAG ID Number: 681
Recorded Date: 2013-01-16 16:37:13
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2010-11-03
Location: Arkengarthdale and Stainmore
Civil Parish: Arkengarthdale
British National Grid: NY 955 088
Altitude: 410m
Geology: The Stainmore Trough, for details of this very significant structure and the relationship of the deep Stainmore Trough and the adjacent Cotherstone Syncline Structures to the uplifted North Pennine Alston Block see Dunham and Wilson 1985. BGS 'The North Pennine Orefield. Volume 2. Stainmore to Craven. Chapter Three and Figure 4.' and also BGS Map 1:50000 sheet 31 Drift Edition, Main Section.
Only SWAAG Members can see these images due to copyright restrictions
Description: The view from above Hungry Hushes over Dale Head Common at the head of Arkengarthdale to Coney Seat Hill and across Stainmore Forest to Mickle Fell and the High North Pennines is in my opinion one of the most interesting and impressive in Arkengathdale, see photo images No 1 and 2. The geological significance of this view arises from the relationship between the mainly horizontal strata of the uplifted Alston Block with the steeply dipping strata of the Stainmore Trough. The Alston Block is bounded on the west by the Pennine Escarpment and the Pre-Carboniferous Strata of the Cross Fell Inlier to the west and the Permo-Triassic Strata of the Vale of Eden. To the east the Alston Block is defined by the Cotherstone Syncline which extends from the Lunedale Fault to the River Tees at Cotherstone in the North- East. The southern limit of the Stainmore Trough is considered to be at the Stockdale Disturbance which runs the length of Swaledale. Present day interest arises from the fact that the Stainmore Pass, much admired by lovers of the A66 Road, provides the easiest and lowest route through the Pennines from the Vale of Mowbray and the south and east to the Vale of Eden and the north and west.
Dimensions: See photos
Additional Notes: Coney Seat Hill is the largest of a series of glacial morainic hills at Sleightholme. The trail of Shap Granite, Lake District Volcanic and Triassic Brockram eratic boulders dumped by the Stainmore Ice in Teesdale is of special interest.
Last Update: 2013-01-17

Record Number 681 >>> Image 1: Stainmore from Hungry Hushes.

Record Number 681 >>> Image 2: Coney Seat Hill and Sleightholme caught by the final evening winter sun.

Record Number 681 >>> Image 3: View through Dale Head Common to Stainmore.

Record Number 681 >>> Image 4: View across Stainmore to Mickle Fell and the HIgh Pennine escarpment.

Record Name: Linear Earthwork on Harkerside seen beyond Grinton Bridge, Grinton Church and The Bridge Hotel from Fremington Edge.
SWAAG ID Number: 688
Recorded Date: 2013-02-24 16:47:55
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Archaeology
Site Access: Public Access Land
Record Date: 2013-02-17
Location: Grinton
Civil Parish: Grinton
British National Grid: SE 047 984
Altitude: 200m
Geology: Ice dammed lake edge or river terrace
Description: This view of the linear earthwork which runs through the pastures beyond Grinton is of interest.
Additional Notes: Having looked longingly up to Fremington Edge from the car park of the Bridge Hotel very many times, I thought that a look back to the Bridge Hotel Car park, the linear earthwork, the Church and the Bridge- from Fremington Edge would be appropriate.
Last Update: 2013-02-25

Record Number 688 >>> Image 1: Grinton Bridge, the linear earthwork and the Harkerside Pastures from Fremington Edge

Record Name: An archaeological traverse of Witton Fell, Braithwaite Moor, Braithwaite Banks and Caldbergh Pastures. Part One: The Moorland Sites
SWAAG ID Number: 690
Recorded Date: 2013-03-03 13:10:38
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Archaeology
Site Access: Public Access Land
Record Date: 2013-03-02
Location: East Witton Fell, Braithwaite Moor, Strut Steer and Caldbergh Pasture.
Civil Parish: East Witton
British National Grid:
Geology: Namurian Millstone Grit Strata with previously mined coal seams on the higher moorland. Glacial till with ice margin and overflow channels. British Geological Survey Sheet 51 - Masham Sheet.
Description: Part One of this record is a photographic introduction to the archaeological landscapes of an elevated area of heather grouse moorland on the NE Pennine Fringe with fine views over Lower Wensleydale, the Tees Lowlands and Vale of Mowbray to the North York Moors.
The archaeological interest lies in sites of Bronze Age date and with the comparatively recent remains of the Whitton Moor Colliery. Details of which will be briefly provided in the image captions. More detailed descriptions will be available as specific SWAAG Database Site Records.
Dimensions: See OS 1:25000 Sheet OL31
Additional Notes: This record consists of photographs taken during a field walk on a fine day in early March by SWAAG Members- Tim and Eileen Laurie,David Brook,Mike Walton and with Jim Brightman across Witton Fell, Braithwaite Moor, Braithwaite Banks, Strut Steer and so down to Caldbergh Pasture. The walk included a visit to the very large and as yet undated earthwork enclosure known as East Witton Camp above Braithwaite Hall (A very fine aerial photograph of this earthwork forms the front cover to R.F.White and P.R. Wilson Eds.2004. 'Archaeological and Historic Landscapes of the Yorkshire Dales'Yorkshire Archaeological Society Occasional Paper No. 2.) and to the smaller enclosure known as Castle Steads Fort at Caldbergh Pasture. Photographs take during this walk of these sites within the enclosed pastures form Part Two of this record.

For brief details of the Sites, see Image Captions.
For details of the Burnt Mounds on Witton Moor, see SWAAG Record NO 52 and the burnt Mound below Town Spring at Ings Head below Caldbergh Moor, see SWAAG Record No 53.

Last Update: 2013-03-04

Record Number 690 >>> Image 1: The start. View over The Vale of Mowbray from road end above Sowden Beck.

Record Number 690 >>> Image 2: Two burnt mounds at the same spring rise which has been controlled as a water supply. Ihe very large and prominent burnt mound is on the northern bank of the spring stream

just below the source. The smaller and lower burnt mound is on the opposite or southern bank.

Record Number 690 >>> Image 3: Detail of the burnt mounds at Sowden Beck Spring

Record Number 690 >>> Image 4: Detail of the burnt mounds at Sowden Beck Spring

Record Number 690 >>> Image 5: Detail of the burnt mounds at Sowden Beck Spring

Record Number 690 >>> Image 6: Small burial cairn. This mound of highly consolidated small stones probably cover a grave of early to Bronze Age Date. This grave is undisturbed and long may it so remain. RIP.

Record Number 690 >>> Image 7: The same burial mound. This small round cairn is located some 400m to the north of the two burnt mounds and overlooks the Vale of Mowbray.

Record Number 690 >>> Image 8: The track to Caldbergh with isolated Scots Pine. Two lithic finds indicate the presence of an occupation site sealed below thin peat nearby.

Record Number 690 >>> Image 9: Cairnfield type settlement remains near the rackway across Braithwaite Moor. These remains which consist of scattered stone clearance cairns, short lengths of stone field banks and occasional ring cairns and stone kerbed burial cairns are characteristic of Upland Pennine occupation of the Mid to Late Bronze Age Date

Record Number 690 >>> Image 10: The slight remains of this can be seen on the gentle hill slope above the upper reaches of Sowden Beck over a considerable distance, but are only visible where heather has been recently burnt . cairnfield extends

Record Number 690 >>> Image 11: The Cairnfield, detail with EAL.

Record Number 690 >>> Image 12: The Witton Moor Colliery. Remains of Mine Shop at SE12698442, 339m AOD, with adjacent hollow Ways and a large shaft mound

Record Number 690 >>> Image 13: The Witton Moor Colliery. Remains of Mine Shop at SE12698442, 339m AOD, with adjacent hollow Ways and a large shaft mound

Record Number 690 >>> Image 14: Isolated stone round cairn at SE12418469, 350m. This small burial mound is located with views across the Tees Lowlands and to the Eston Hills.

Record Number 690 >>> Image 15: The road to the Whitton Moor Colliery. Legend has it that the ladies of the nearby Great Houses took their Sunday Horse and Trap excursions on this road to see the miners hard at work.

Record Number 690 >>> Image 16: Coal pit.

Record Number 690 >>> Image 17: Coal Pit

Record Number 690 >>> Image 18: Coal Pit

Record Number 690 >>> Image 19: Coal pit and level driven into the hillside at a lower elevation.

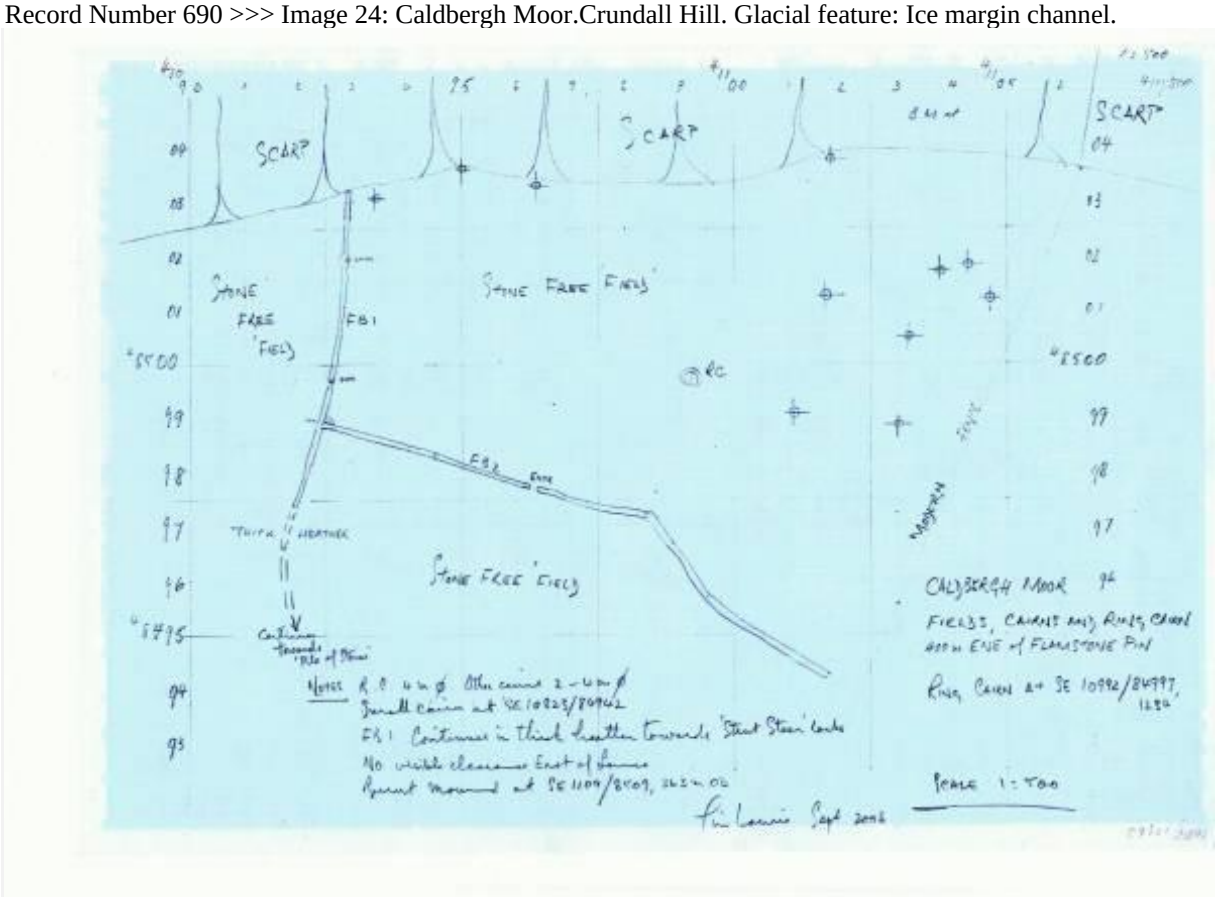
Record Number 690 >>> Image 20: Coal pit and level driven into the hillside at a lower elevation.

Record Number 690 >>> Image 21: Caldbergh Moor. Burnt mound at spring rise above Ewe Lock. Cairnfield complex below Strut Steer nearby.

Record Number 690 >>> Image 22: The view from the burnt mounds above Ewe Lock.

Record Number 690 >>> Image 23: This photograph indicates that there could be two burnt mound sites here,not one as originally thought.

Record Number 690 >>> Image 24: Caldbergh Moor.Crundall Hill. Glacial feature: Ice margin channel.



Record Number 690 >>> Image 25: 1:500 Scale survey of field system,cairnfield and ring cairn complex below Strut Steer. T.C. Laurie September 2006.

Record Number 690 >>> Image 26: Andrew Fleming and Eileen Laurie at the field system and cairnfield below Strut Steer. 1980.

Record Number 690 >>> Image 27: Field bank as first discovered, under heather.

Record Number 690 >>> Image 28: Ring cairn and stone free field, below Strut Steer.

Record Number 690 >>> Image 29: The Ring Cairn. For details and extent of this bronze age cairnfield type settlement, see survey above

Record Number 690 >>> Image 30: The Ring Cairn, detail.

Record Name: A fine day in April. The Goats Road from Holgate to Hurst. The way home.
SWAAG ID Number: 713
Recorded Date: 2013-04-07 16:49:06
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Public Footpath
Record Date: 2013-04-04
Location: The Goats Road from Hurst to Holgate. A fine day in April>
Civil Parish: Marrick
British National Grid: NZ 064 035
Altitude: 315m
Description: The Goats Road from Holgate used to be my way from Barningham via Holgate to the Green Dragon at Hurst -in summer!
Now the Green Dragon has gone and Global Warming Looms.
Last Update: 2013-04-07

Record Number 713 >>> Image 1: The Goats Road. Holgate How in distance

Record Number 713 >>> Image 2: The Goats Road. View towards Hurst from Schoolmaster Pasture.

Record Number 713 >>> Image 3: The climb up from Holgate.

Record Name: Raven Scar, Walden Moor. The highest vertical limestone Scar in the NE Pennine Dales.
SWAAG ID Number: 721
Recorded Date: 2013-05-03 19:52:57
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2013-05-02
Location: Raven Scar, Walden Moor.
Civil Parish: Burton cum Walden
British National Grid: SD 9775 7847
Altitude: 500m
Geology: Deep and narrow stream cut gorge and glacially enlarged ravine estimated to be 60m-70m deep with exposed Richmond Chert and Main and Underset Limestone strata. The Main Limestone forms a sheer cliff with only slightly less vertical chert strata over anda very steep scree talus slope below. The lower and less prominent but tree lined cliff just above the stream is formed by the Underset Limestone.
Description: First seen in the far distance and photographed through *10 lens from Deepdale Head, the fine limestone cliff within the deep ravine at Raven Scar is not well known and deserves to be recognised as a rival to High Cup Nick as one of the marvels of the Pennines.
Dimensions: See photos.
Additional Notes: Watch this space for further botanical and tree records following a close acquaintance with this fine limestone gorge and cliff.
Last Update: 2013-05-04

Record Number 721 >>> Image 1: Raven Scar photographed through *10 lens from Deepdale Head, Walden Moor.

Record Number 721 >>> Image 2:

Record Number 721 >>> Image 3:

Record Name: A walk by SWAAG Members along Sleghtholme Beck above The Trough to East Mellwaters Farm and return by Trough Heads.
SWAAG ID Number: 743
Recorded Date: 2013-08-01 15:17:35
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Public Access Land
Record Date: 2013-07-28
Location: Sleightholme Beck
Civil Parish: Not known
British National Grid:
Geology: Glacially enlarged stream valley with cliff exposures of the Main Chert Series and narrow stream gorge enlarged by meltwater through the Main Limestone.
Description: This is a photographic record, with minimal comment of a walk by SWAAG Members on a fine July Day along Sleghtholme Beck above The Trough to East Mellwaters Farm and return by Trough Heads.
Please refer to previous SWAAG Database Records for the archaeological and geological sites seen during this walk.
Dimensions: See photos
Additional Notes: See photo captions.
Last Update: 2013-08-01

Record Number 743 >>> Image 1: SWAAG Members at The Trough, Sleightholme Beck. After lunch.

Record Number 743 >>> Image 2: Sleightholme Bog Scar. Faulted Namurian sandstones, mudstones and shales are well exposed in this cliff.

Record Number 743 >>> Image 3: John in full geological flight.

Record Number 743 >>> Image 4: The footbridge taking the Pennine Way across Sleightholme Beck.

Record Number 743 >>> Image 5: Remains of a barn beside the Pennine Way.

Record Number 743 >>> Image 6: Glacially enlarged ravine of Sleghtholme Beck. The line of this stream is controlled by the fault seen in Bog Scar.

Record Number 743 >>> Image 7: Aspens,Rowans, Downy Birch and Sallows on a small cliff.

Record Number 743 >>> Image 8: The Trough with Sleightholme Beck in spate.

Record Number 743 >>> Image 9: Lunch by the limestone ravine or gorge. I forget which it is, where is my notebook?

Record Number 743 >>> Image 10: The river in spate.

Record Number 743 >>> Image 11: The way down to East Mellwaters.

Record Number 743 >>> Image 12: John explains the relationship between the light refraction through the Calcite Crystal and the development of the compound eye of the trilobite.

Record Number 743 >>> Image 13: John explains to an incredulous but rapt audience that the human skeleton is descended from the ability of a trilobite to evolve an external shell by covering its tiny pink

defenceless body with one of the most unexpected substances, whose name I care not to mention.

Record Number 743 >>> Image 14: At last, here they are!

Record Number 743 >>> Image 15: The last of the Trilobites, very small and just the tripartite tail sections survive.

Record Number 743 >>> Image 16: View upstream to the Trough

Record Number 743 >>> Image 17: Lime trees

Record Number 743 >>> Image 18: Native enclosed round house settlement at East Mellwaters. The 3m wide enclosing bank quarried out for the construction of an overlying sheepfold.

Record Number 743 >>> Image 19: The curviliniear stone bank encloses three round houses and several ancillary huts.

Record Number 743 >>> Image 20: The largest round house is flanked by two smaller round houses, see survey report and plan. Durham Archaeological Journal, 1. 1984 pp35-39.

DURHAM ARCHAEOLOGICAL JOURNAL

Volume 1

1984

Record Number 743 >>> Image 21: Ab Enclosed Settlement near East Mellwaters Farm, Bowed, Co Durham. Durham Arch. Journal Volume 1. 1984 pp35-39

Durham Archaeological Journal 1, 1984, pp. 35-39.

AN ENCLOSED SETTLEMENT NEAR EAST MELLWATERS FARM, BOWES, CO.DURHAM

by T. Laurie

THE SITE (fig.1, pl.1)

East Mellwaters Farm lies approximately 1½ miles (2½km) west of Bowes on high ground (950',288m O.D.) between the confluence of the River Greta and Sleightholme Beck. The settlement here described (NY 9685 1245) is situated on level pasture forming the valley floor some 30m south of Sleightholme Beck and 400m below the point where Sleightholme Beck leaves the limestone ravine known as the Trough. The settlement is 0.5 km south of the Roman Road (A66) between Bowes, Stainmore and Brough and 2.5 km west of the fort at Bowes.

The settlement was protected by a rock-faced enclosing wall now visible as a bank of stones which has a maximum width of 11m and a maximum height of 1.2m. Occasional orthostats remain to define the outer base courses of the wall 3.5m apart - the original thickness of the wall. Two narrow entrances through the wall can be recognised on the northern and southern perimeter. An eastern entrance is also probable although partly robbed out.

Reference to Section BB will show that with no allowance for robbing (and very considerable removal of stone has taken place on this site) sufficient material remains in the bank to account for an original height of 2m for an original wall width of 3.5m. This massive wall enclosed an elliptoid (sub-circular) area measuring 45m on the longer (east-west) axis and 38m on the shorter (north-south) axis.

The western half of the enclosed area is occupied by a multiple-roomed or hutted homestead comprising a large central hut circular in form, 9.5m in internal diameter with an eastern entrance. This central hut is flanked by two circular huts 6.5m and 6m in internal diameter. Other possible huts or interconnected rooms irregular in form and situated in the area between these three huts and the enclosing wall are indicated by low banks.

The ground level of the interior of the central hut is considerably (0.6m) higher than the surrounding ground. This may indicate a build-up of occupation or collapse debris. The general level of ground outside the southern perimeter of the enclosure is 1.38m above general ground level within the enclosure – an indication that cutting and levelling has taken place here.

The remains of ancillary huts can be seen adjacent to this southern perimeter although the face of the retaining wall which formed the rear wall of these huts has been robbed out and the line of the original wall is obscured by tumble here. However, the orthostats shown on the plan do indicate the two faces of the wall.

The modern sheep-fold, L-shaped in plan, which has been built across the settlement, appears to have been constructed from material robbed from the enclosing wall. At any rate the settlement wall has been totally robbed out for a considerable width adjacent to the sheep-fold.

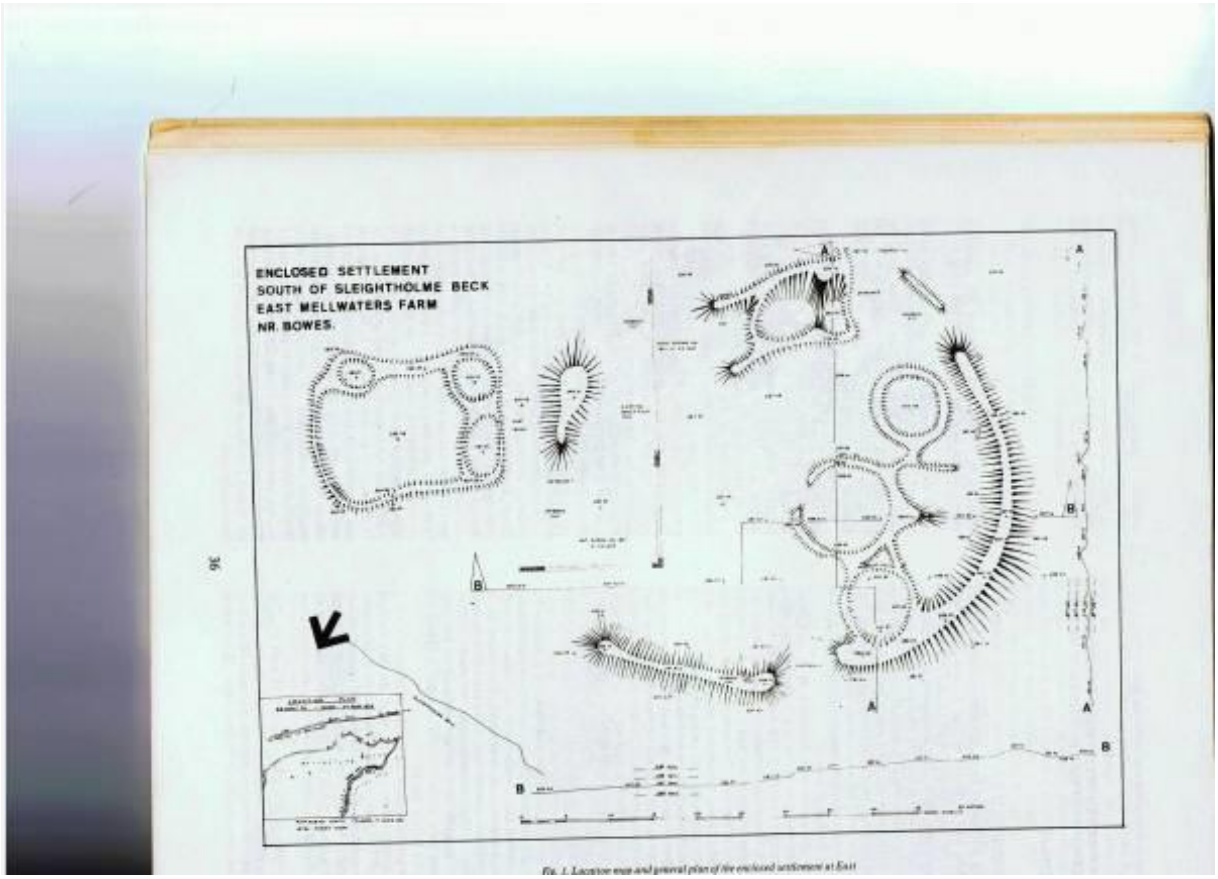
It is interesting to note that the settlement is shown on O.S.Sheet Y11, 6" to 1 mile– 1857 Edition, but has not apparently been recognised as such since. The sheep-fold is not shown on this map which does, however, show the complete settlement before the robbing of stone for the wall. Huts not now visible are shown adjacent to the eastern perimeter.

The entrance to the large central hut faces east towards the main entrance through the enclosing wall which was surely also in the centre of the eastern perimeter. This entrance is now robbed out except for the southern wall which is marked by a 'base' course which remains undisturbed. A cart track now separates the main settlement from the smaller rectangular enclosure to the East. This small enclosure possessed two circular huts at the western end and one small circular hut near the south-east corner.

DISCUSSION

The settlement at East Mellwaters should in the first instance be compared with the two settlements at Force Garth dated to the mid-1st and mid-2nd centuries A.D. and to the unexcavated settlement near Wynch Bridge – all in Upper Teesdale.[1] These three settlements are all situated in non-defensive positions near streams and are protected with sub-circular stone banks. The material available in Upper Teesdale is rounded boulders of Whin Sill, the nature of which imposes limitations of height of construction.

Enclosed settlements are not common in Co. Durham, even in upland areas.[2] In Northumberland and Cumbria on the other hand, similar enclosed settlements are very numerous and widespread.[3] While sharing many features of internal form with the rectilinear settlements of the Roman period in Northumberland, whose distribution is concentrated on the valleys of the North Tyne and Wansbeck Rivers,[4] it is clear that this site is more comparable with the mainly curvilinear enclosed settlements of North Northumberland.[5]



Record Number 743 >>> Image 23: Survey Plan

Plate 1. View of the enclosed settlement at East Mellwaters Farm from the south-east.

Jobey has suggested[8] that the slightly more formal nature of the rectilinear settlements of South Northumberland is due to local Roman influence. Enforced or encouraged settlement in this area of Northumberland can be inferred but not proved. The settlement at East Mellwaters does not reveal any such influence of form.

Characteristics shared in common with the Northumberland sites are as follows:-

1. Location chosen for shelter and comfort rather than from considerations of defence – an expression of confidence in the security of the times – *Pax Romana* – perhaps?
2. Orthostatic construction of the main enclosure wall.
3. A *slight* outer ditch (see Section BB).
4. A depressed area or yard in front of the main dwelling.
5. Use of the area between the rear of the huts and the enclosure wall.
6. The main entrance to the settlement is in the centre of the eastern perimeter as is the entrance to the dwelling. It is probable that a central flagged roadway exists from the main dwelling to the central entrance – flagged paving is visible where cattle have removed topsoil next to the sheep-fold.
7. The enclosed area appears to have been excavated on the southern side and was possibly levelled on the northern side. The settlement is in fact a 'scooped' enclosure although situated on gently sloping ground.

Lastly East Mellwaters should be compared with those settlements usually described as Romano-British which are included in the Royal Commission's Inventory of the Historical Monuments in Westmorland (1936). On the whole the settlements in

the Eden Valley and centred on Nateby, Crosby Garrett, Asby and Crosby Ravensworth are correctly described as village settlements rather than homesteads. All are undefended although often in defensible situations; all are constructed with orthostatic walling. The sub-circular enclosed settlement known as Castle Hill, 2¼ miles south-east of Dufton, is very similar in size and form although ditched and embanked rather than walled. Here a quern of Romano-British type was found.[7]

Further west, in the Lake District, homesteads similar to East Mellwaters are frequently sited at the extreme upper level of the radiating valleys – as at Kentmere, Hartsop and in Bannerdale above Martindale. These remote settlements, as at Mellwaters and at Force Garth, may indicate a Native preference for isolation or for discreet locations as an alternative form of defence.

Having noted the affinity of East Mellwaters with the enclosed settlements of Upper Teesdale, Northumberland and the Eden Valley, the known settlements in the Middle Tees Valley and to the South in Swaledale and Wensleydale provide a contrast. At Cotherstone and at Ovington settlements defended by strong dykes are sited on the edge of the ravine above the Tees. In both Swaledale and in Wensleydale small settlements occupy defensible situations on moraine hillocks. Large unenclosed village settlements are situated on remote terraces high above the valleys of the Tees, Swale and Ure immediately below the uppermost north-facing scars – situations seemingly chosen for reasons of discretion.

Castlesteads above Dalton, 10 km south-east of Barnard Castle, is the only real hill-fort (promontory fort) in the area. This superb camp, high above the confluence of two streams and defended by ditch, berm and stone faced rampart on all sides, together with separate, similar, linear earthworks across the level ground to the south, provides a worthy satellite to Stanwick Camp a few miles to the north. No date for Castlesteads is available and it may be earlier rather than later Iron Age in date

Evidence for a stock-raising economy at East Mellwaters may be provided by a double ditched enclosure on the edge of the ravine at NY 9670 1225. This enclosure, if contemporary, would indicate that protection of stock was an important consideration.

In view of the certain knowledge that throughout historic times Stainmore has formed a strategic route and, in the earlier historic period, a frontier area, it may seem surprising that such a substantial homestead could have been located at East Mellwaters in the later prehistoric or Roman period with no apparent regard for defensive considerations. Since circular huts with stone foundations and substantial enclosing walls are often attributed to the 1st or 2nd centuries A.D., it is not unreasonable to suggest that the necessary protection to this homestead was Roman and was provided from Bowes – 1½ miles distant. The comparative lack of evidence for agriculture or extensive stock raising in the form of stock grazing boundaries in the vicinity can be explained by later clearance and improvement of pasture.

Recent work by Alison Donaldson on the pollen analysis of peat deposits at two sites, one 10km to the west on Stainmore (NY 8711 130, 400m O.D.) and the other 10km north east at Moss Mire (NZ 025 213, 295m O.D.) both indicate large scale clearance of primary birch-alder woodland at an Early Iron Age date. At Stainmore this clearance has been carbon-dated to 530± 70 b.c. (HAR-2689). This early clearance of the higher ground on Stainmore was followed by pastoral use and the area has remained free of woodland to the present day. Pollen from the Iron Age horizon at Moss Mire, which is situated near the River Tees at the same altitude as East Mellwaters, is dominated by herbs including agricultural indicators, with cereals appearing before a return to woodland, carbon-dated here to a.d. 400± 90.

Thus, on the basis of available environmental evidence, it seems probable that the farm economy at East Mellwaters was mainly pastoral but with some arable land including the production of cereals at a later Iron Age date.

The evidence for an early field system that may be associated with the settlement, on the better land situated between Sleightholme Beck and the River Greta, is confined to a very small unploughed paddock near the modern farm. Elsewhere between the two rivers early field boundaries, if they existed, have been removed by later clearance. No evidence for agriculture exists on the higher, poor marsh/heath land south of Sleighthome Beck. It can be assumed that the whole of the land at present farmed at East Mellwaters between the rivers was also farmed during the period of occupation of the settlement. The early clearance of woodland on Stainmore and elsewhere in Upper Teesdale points to the pastoral occupation of this area in the Late Bronze Age or Early Iron Age, and associated settlement can be expected to exist in the area.

Enclosed settlements with round stone-founded houses have been shown to be occupied during the Roman period[8] and I consider that the large circular multi-roomed house and massive rock-faced enclosing wall shown on the plan should be assigned to the 1st - 4th. centuries A.D.. This is not to say that the initial occupation of the site as a whole was Roman. Such settlements have been found elsewhere to overlie earlier houses of ring-ditch or timber-post construction.[9] Enclosing stone walls have been found to overlie earlier timber palisades adopting the earlier form dictated by the palisade.[10]

The floor level of the central circular house is 0.6m above surrounding ground level and this may indicate multi-period occupation of the site. An earlier timber palisade replaced by the stone enclosing wall would

the Eden Valley and centred on Nateby, Crosby Garrett, Asby and Crosby Ravensworth are correctly described as village settlements rather than homesteads. All are undefended although often in defensible situations; all are constructed with orthostatic walling. The sub-circular enclosed settlement known as Castle Hill, 2¼ miles south-east of Dufton, is very similar in size and form although ditched and embanked rather than walled. Here a quern of Romano-British type was found.[7]

Further west, in the Lake District, homesteads similar to East Mellwaters are frequently sited at the extreme upper level of the radiating valleys – as at Kentmere, Hartsop and in Bannerdale above Martindale. These remote settlements, as at Mellwaters and at Force Garth, may indicate a Native preference for isolation or for discreet locations as an alternative form of defence.

Having noted the affinity of East Mellwaters with the enclosed settlements of Upper Teesdale, Northumberland and the Eden Valley, the known settlements in the Middle Tees Valley and to the South in Swaledale and Wensleydale provide a contrast. At Cotherstone and at Ovington settlements defended by strong dykes are sited on the edge of the ravine above the Tees. In both Swaledale and in Wensleydale small settlements occupy defensible situations on moraine hillocks. Large unenclosed village settlements are situated on remote terraces high above the valleys of the Tees, Swale and Ure immediately below the uppermost north-facing scars – situations seemingly chosen for reasons of discretion.

Castlesteads above Dalton, 10 km south-east of Barnard Castle, is the only real hill-fort (promontory fort) in the area. This superb camp, high above the confluence of two streams and defended by ditch, berm and stone faced rampart on all sides, together with separate, similar, linear earthworks across the level ground to the south, provides a worthy satellite to Stanwick Camp a few miles to the north. No date for Castlesteads is available and it may be earlier rather than later Iron Age in date

Evidence for a stock-raising economy at East Mellwaters may be provided by a double ditched enclosure on the edge of the ravine at NY 9670 1225. This enclosure, if contemporary, would indicate that protection of stock was an important consideration.

In view of the certain knowledge that throughout historic times Stainmore has formed a strategic route and, in the earlier historic period, a frontier area, it may seem surprising that such a substantial homestead could have been located at East Mellwaters in the later prehistoric or Roman period with no apparent regard for defensive considerations. Since circular huts with stone foundations and substantial enclosing walls are often attributed to the 1st or 2nd centuries A.D., it is not unreasonable to suggest that the necessary protection to this homestead was Roman and was provided from Bowes – 1½ miles distant. The comparative lack of evidence for agriculture or extensive stock raising in the form of stock grazing boundaries in the vicinity can be explained by later clearance and improvement of pasture.

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The floor level of the central circular house is 0.6m above surrounding ground level and this may indicate multi-period occupation of the site. An earlier timber palisade replaced by the stone enclosing wall would

explain the apparently early curvilinear form of the settlement.

It is hoped that publication of the plan and this description of the settlement at East Mellwaters will, together with the environmental evidence now available for this area, assist in the understanding of the Iron Age landscape of Stainmore.

This embanked (walled) site is well preserved in spite of the loss of much stone for later farm walls. The site is on a public right of way and is worth a visit since the visible foundations of the interconnected round huts or rooms do give a real insight into the form of the early British farmstead so numerous elsewhere but so scarce – at least in upstanding form – in the county of Durham.

East Mellwaters farm is on the Pennine Way (the diversion from Sleightholme to Bowes) and a visit to the site could be combined with a walk up the south side of Sleightholme Beck to visit the interesting limestone ravine known as Trough Heads.

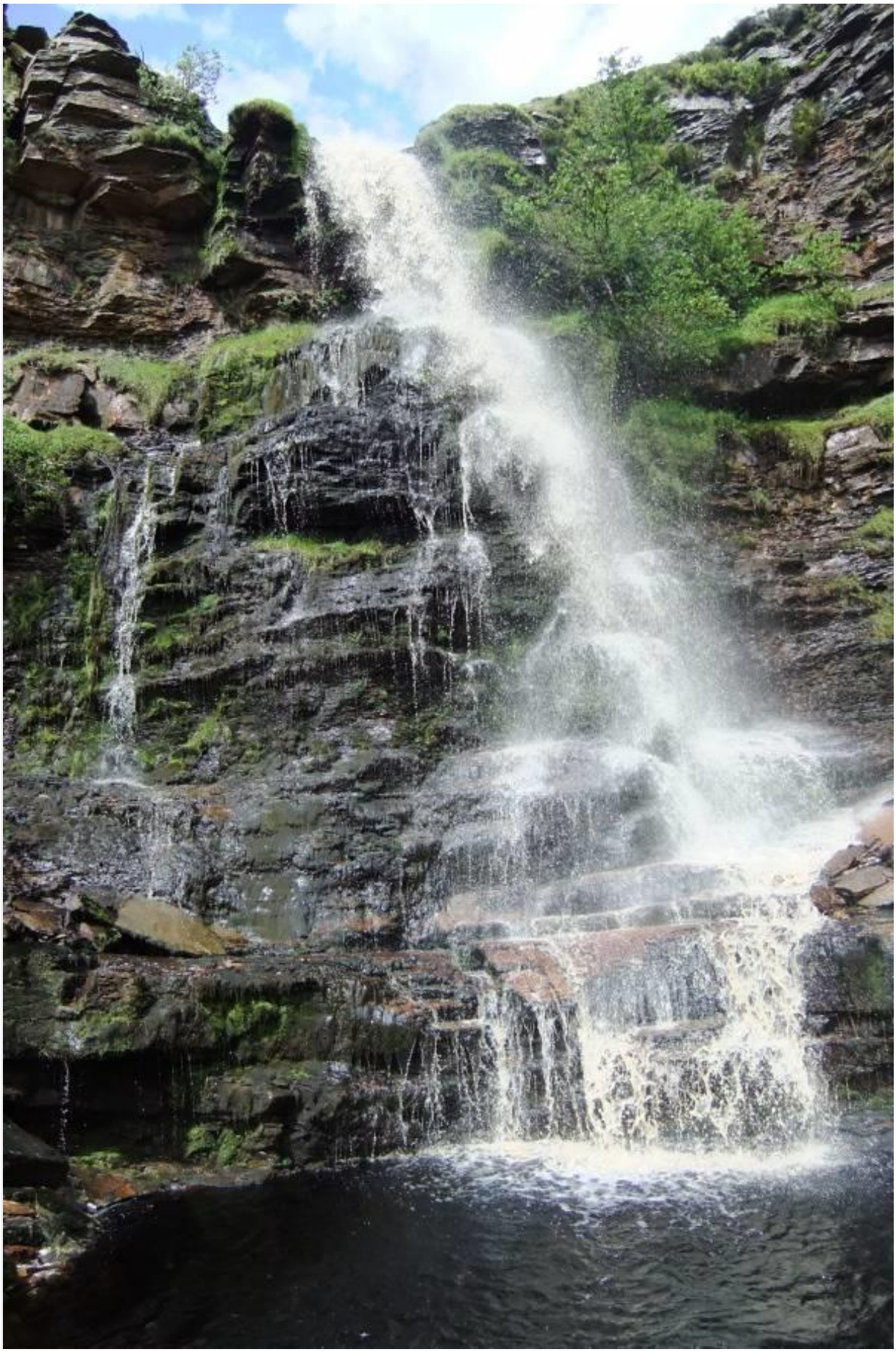
"How Tallon"
Barningham
Richmond
North Yorks.

NOTES

1. D. Coggins and K. Fairless, *Trans D & N* 5, 1980, 31-38.
2. Challis and Harding list a total of seven curvilinear enclosures in Co. Durham in *Later Prehistory from the Trent to the Tyne*, B.A.R. 20, 1975. However, it is doubtful whether any of these sites are really comparable with East Mellwaters. The only really comparable sites are Forcegarth Pasture North and South and the unexcavated settlement near Wynch Bridge – all three in Upper Teesdale.
3. Jobey has described the enclosed settlements of Northumberland in *Arch. Aeliana* 4th Series 38,1960,1-38; 39, 1961, 87-102; 40, 1962, 47-58; 41, 1963, 19-35 and 211-215; 42, 1964, 41-64. Very many 'village' settlement plans in the Eden Valley and in the Lake District are shown in the R.C.H.M. Inventory of Historical Monuments in Westmorland (1936). Most are larger in size than East Mellwaters but are otherwise comparable. Most are assigned to the period of Roman occupation.
4. G. Jobey, *Arch. Aeliana* 4th Series 38, 1960; distribution of sites, fig 9, page 18.
5. G. Jobey, *Arch. Aeliana* 4th Series 42, 1964, distribution of sites, fig 1, page 41.
6. *Arch. Aeliana* 4th Series 42, 1964, 61.
7. R.C.H.M. *Westmorland*, 1936, 94-5.
8. Enclosed settlements with round, stone-founded houses have been shown by direct evidence from excavation to have been occupied during the Roman occupation at :-
   a) Forceparth Pasture, North and South, Coggins and Fairless, *op. cit.*
   b) Hetha Burn 1, Hethpool, Northumberland – C.B. Burgess *Trans. D & N* 2, 1970, 1-26.
   c) Towers Knowe, Wellhaugh, Northumberland – G. Jobey, *Arch. Aeliana* 5th Series 1, 1973, 55-79.
   The later occupation of enclosed settlements with round stone-founded houses, whether scooped, curvilinear or rectangular in form in Northumberland, has been assigned generally to the Roman Period although the intial occupation of these sites has been proved in many instances by excavation to be of circular dwellings wholly of timber construction. Evidence for this earlier occupation has been found to exist in the form of post-holes and ring-ditches which underlie the stone-founded houses.
9. e.g. Forcegarth Pasture, South – information provided by Mr D. Coggins; Hetha Burn 1, *op.cit.* 12 and notes 13 and 14; Tower Knowe, *op.cit.*; Hartburn – G. Jobey, *Arch Aeliana* 5th Series 1, 1973, 11-53. Here, initial occupation of the site could have been as early as the 5th or 6th centuries B.C. with a minimum of twelve replacement phases on the permissible groupings of round timber-built houses marked by construction trenches – leading to final occupation in the second and possibly third century A.D.
10. Tower Knowe, *op.cit.* This settlement, although rectangular in form, otherwise bears a close resemblance to East Mellwaters. The enclosing stone wall of orthostat construction, 1.5 - 2.0m thick, was found to overlie a well-marked timber palisade-slot. The palisade was replaced by the stone wall with no significant interval of time, both phases were dated to the Roman occupation. The arrangement of three round stone houses at Tower Knowe is very similar to East Mellwaters; this last stage of occupation was preceded by two replacement phases of round timber-built houses.

Record Name: A photofile of the Graining Scar Waterfalls and relict woodland by Hoods Bottom Beck, Whitsundale.
SWAAG ID Number: 764
Recorded Date: 2013-10-23 20:02:32
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Public Access Land
Record Date: 2011-06-27
Location: Whitsundale, Hoods Bottom Beck and Falls
Civil Parish: Muker
British National Grid: NY 866 047
Altitude: 450m-500m
Geology: Namurian sandstones and shales.
Description: This is a general photographic portrait of the general scenery at Hoods Bottom Beck to supplement the previous records of the geology, woodland and trees.
Dimensions: N/A see photos
Additional Notes: If there are is a path on either side of the meandering Hoods Bottom Beck, I have been unable to find it. This walk is quite rough and not to be undertaken lightly as it is necessary to cross and re-cross the stream to avoid small cliffs. This will be impossible when, after rain, the water level is high. Who Hood was, and the importance of his Bottom, I have no idea but the three waterfalls at the head of the valley about one mile ustream of Ravenseat Farm are surely among the most attractive in Swaledale.

Last Update: 2013-10-27



Record Number 764 >>> Image 1: The lower falls on Graining Scars, Hoods Bottom Beck

Record Number 764 >>> Image 2: The upper falls on Graining Scars at the head of Hoods Bottom Beck.

Record Number 764 >>> Image 3: The lower falls with aspen clones and sallows.

Record Number 764 >>> Image 4: Jenny Whalley Force above Ravenseat Farm. Graining Scars in the distance.

Record Number 764 >>> Image 5: The lower falls with aspens.

Record Number 764 >>> Image 6: The falls.

Record Number 764 >>> Image 7: The falls seen from directly below

Record Number 764 >>> Image 8: Junipers on a small black shale cliff by Hoods Bottom Beck 100m below the falls.

Record Number 764 >>> Image 9: Sheepwash fold on meandering Hoods Bottom Beck

Record Number 764 >>> Image 10: The way back to Ravenseat Farm, tea and scones.

Record Name: A walk to Mt Ida and to the Fox Tower above Brough
SWAAG ID Number: 818
Recorded Date: 2014-07-26 16:48:44
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Private
Record Date: 2014-07-23
Location: Helbeck Fell, Helbeck Wood and the Fox Tower
Civil Parish: Not known
British National Grid:
Altitude: 350m
Geology: Faulted limestones of Lower Carboniferous Age on the line of the Pennine Fault
Description: The Fox Tower, Watch Tower assigned by the Medieval Castle of Brough to Early Warning of Scots Raiders was the object of this peaceful botanical excursion. By kind permission of the Owner, we were given permission to walk from Helbeck Hall across Helbeck Fell to Mt Ida and from thence down through Helbeck Wood.
My own geological interest was charged by the marvellous exposures of the Pennine Fault in the limestone strata on Mt Ida. Botanical interests included several fine ash trees and occasional small yew trees (not to compare with those of Swaledale) on the cliffs and the rich flora of the limestone.
However apart from losing Eileen, who wandered off on her own to the depths of Helbeck Wood, the highlight of the walk was of course the Fox Tower. Silent sentinel of the Scottish Wars long past, but who knows perhaps to be brought to good use again if a Republic of Scotland decides to extend the Border to the Trent (as many would secretly hope for).
Silently we pondered on this and of the view from the Watch Tower. But not for long, a sudden CRACK denoted the use of high velocity tank gun. The tell tale after puff of smoke, less than a km below, marked the firing point. Very pleased not to be on the receiving end, we pretended to be botanists again so as not to attract attention, or a stray round.
Dimensions: See photographs
Additional Notes: For additional notes see photo captions.
Last Update: 2014-07-26

Record Number 818 >>> Image 1: The Fox Tower. Silent sentinel of the past in Helbeck Wood.

Record Number 818 >>> Image 2: View down from Helbeck Fell to Brough and Brough Castle

Record Number 818 >>> Image 3: Botanising the steep scarp slopes of the limestone.

Record Number 818 >>> Image 4: Carline Thistle (Carlina vulgaris) a handsome but scarce thistle of limestone turf, sometimes stemless.

Record Number 818 >>> Image 5: Carline or stemless thistle

Record Number 818 >>> Image 6: Ash tree on the slopes of Mt Ida

Record Number 818 >>> Image 7: Limestone Scar with ash and small yew tree.

Record Number 818 >>> Image 8: Harebells.

Record Number 818 >>> Image 9: Mt Ida from the upper part of Helbeck Wood

Record Number 818 >>> Image 10: Monocline structure exposed in strata of the Great Scar Limestone on Mt Ida.

Record Number 818 >>> Image 11: Limestone ashwood. Helbeck Wood SSSI

Record Number 818 >>> Image 12: Small scabious a beauty which is only to be found on limestone scars.

Record Number 818 >>> Image 13: Interior of the Fox Tower with spiral staircase leading up to the top of the tower.

Record Number 818 >>> Image 14: Interior of the Fox Tower with spiral staircase leading up to the top of the tower.

Record Name: The search for the highest anf furthest Spring Source of the River Swale.
SWAAG ID Number: 835
Recorded Date: 2014-09-14 12:18:41
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2014-09-03
Location: Birkdale Common. The Source of the Swale
Civil Parish: Muker
British National Grid: #NY 8024 0105
Altitude: 690m
Geology: Spring rise below Pickerset Edge Grit over marine shale band.
Description: This is a short photographic record of a personal search for the ultimate source of the River Swale, that is the highest spring furthest from the junction of the Swale with the Ure and also from the Humber.
The search was unsuccessful at first and required three visits before the highest spring was located.
Species: Botanical record list available.
Additional Notes: Please Note!
The Grid Reference and name of the location of this spring has been hidden since high springs which form the sources of the Swale are home to a rich but delicate community of montane plants, the spring flushes are sensitive places and should not be unnecessarily trampled by many booted feet.
If these spring sites are visited they can be admired from the dry and firm moorland ground at the edges and top of the spring flush.
Last Update: 2014-09-15
Tree Geographical Area: Upper Swaledale

Record Number 835 >>> Image 1: Third time lucky. This really could be the way we need to go.

Record Number 835 >>> Image 2: This Gill could be worth a try, but in fact was the way back.

Record Number 835 >>> Image 3: The small pool just visible in the foreground is the Source of the Swale. L.R. Recording the vegetation.

Record Number 835 >>> Image 4: The search started from Black Scar House on Uldale Beck

Record Number 835 >>> Image 5: Black Scar House and Uldale Beck Meetings.

Record Number 835 >>> Image 6: Uldale Beck. The Lower Falls with Rowan.

Record Number 835 >>> Image 7: Recording a rare example of the natural regeneration of juniper.
Uldale Gill Head.

Record Number 835 >>> Image 8: This seedling juniper has germinated from seed derived from a long dead juniper whose remains are nearby.

Record Number 835 >>> Image 9: Uldale Beck. the Uper Falls.

Record Number 835 >>> Image 10: Onward and upward.

Record Number 835 >>> Image 11: Uldale Gill Head, almost at the top.

Record Number 835 >>> Image 12: Remnant mounds of blanket peat 2-3m deep which once covered the whole of the plateau.

Record Number 835 >>> Image 13: Mallerstang Edge.Water is scarce on the wide plateau

Record Number 835 >>> Image 14: Scattered tarns and pools with remains of willow carr, stunted birch and juniper preserved at the base of 2-3m deep peat

Record Number 835 >>> Image 15: Pools and tarns but no streams.

Record Number 835 >>> Image 16: Where do we go from here?

Record Number 835 >>> Image 17: That is the way back.

Record Number 835 >>> Image 18: And this where we came up.

Record Number 835 >>> Image 19: We will follow this beck as far as we can. The source will be up there.

Record Number 835 >>> Image 20: Remnant mounds of peat show that the whole plateau was until recently covered with blanket peat 2-3m deep.

Record Number 835 >>> Image 21: Ancient willow carr preserved below eroded blanket peat. As seen 30.11.2011

Record Number 835 >>> Image 22: Lunch at Lodge Hags. I think I can see spring flushes over there.

Record Number 835 >>> Image 23: View southward through Mallerstang towards

Record Number 835 >>> Image 24: Massed remains of stunted birch below eroded blanket peat at 660m elevation.

Record Number 835 >>> Image 25: Black shales and thin sandstones are the uppermost beds of the Namurian strata in Swaledale.

Record Number 835 >>> Image 26: The Source of the Swale

Record Number 835 >>> Image 27: The way back with Shunner in the distance.

Record Name: Marker/Boundary Stones
SWAAG ID Number: 877
Recorded Date: 2015-05-05 11:30:40
Recorded by: Ric Carter
Category: Geographical Record
Record Type: Miscellaneous
Site Access: Public Footpath
Record Date: 2015-04-24
Location: Moresdale Road
Civil Parish: Arkengarthdale
British National Grid:
Altitude: See below
Description: Named on the OS Map as "Stony Man or St Andrew's Cross" this Marker Stone at NZ 03201 Bng. 04014 elev. 469m on the Moresdale road bears the inscribed date 1867 (or it could be 1869 - it is not easy to make out the last digit due to erosion) and stands on what is now the Yorkshire/Durham county boundary. A little way off the road to the North (but also on the present county boundary) stands another Marker Stone (also shown on the OS Map but not named) at NZ02974 Bng.04234 elev.487m similarly dated and bearing the inscribed initials "F M". There are numerous cairns and other features to be explored from the Moresdale Road when time and weather permits, although it is a bit of a trudge across the moor from Hurst, or from the Stang Road if approaching from the opposite direction. For the less intrepid, St. Andrew's Cross can just be made out, in good light, on the far horizon to the South East from the vantage point of the public parking area where the county boundaries are signposted on the Stang Road.
Last Update: 2015-05-05

Record Number 877 >>> Image 1: St Andrew's Cross or on the Moresdale Road, West of Hanging Crag

Record Number 877 >>> Image 2: St Andrew's Cross (detail)

Record Number 877 >>> Image 3: un-named Stone inscribed "F M"

Record Name: Satron Tarn. A small, shallow high moorland tarn on eroding blanket peat.
SWAAG ID Number: 881
Recorded Date: 2015-07-21 15:26:11
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Public Access Land
Record Date: 2015-07-20
Location: Satron Moor
Civil Parish: Grinton
British National Grid: SD 942 948
Altitude: 530m
Geology: Blanket peat over sandstones of Namurian Age.
Description: This small peat tarn is the lonely haunt of gulls and geese whose remains litter the shoreline exposed during the summer drought. The peat exposed during low water conditions show a swarm of eroded sphagnum hummock structures once incorporated within the deep blanket peat.
Some images of the moorland vegetation provided.
Dimensions: See photos
Last Update: 2015-07-22

Record Number 881 >>> Image 1: Satron Tarn from the west.

Record Number 881 >>> Image 2: Remnants of sphagnum hummocks exposed at low water

Record Number 881 >>> Image 3: The eastern shoreline.

Record Number 881 >>> Image 4: Satron Tarn from the North with overflow pipe to limit erosion down stream during floods.

Record Number 881 >>> Image 5: Remnants of sphagnum hummocks exposed at low water

Record Number 881 >>> Image 6: Remnants of sphagnum hummocks exposed at low water

Record Number 881 >>> Image 7: Sphagnum rubellum on peat

Record Number 881 >>> Image 8: Sphagnum moss lines the shoreline.

Record Number 881 >>> Image 9: Gull rissole! Remains of a meal enjoyed by a Great Black Backed Gull, large pellet of feathers and bones of a small black headed gull.

Record Number 881 >>> Image 10: Remains of a black headed gull.

Record Number 881 >>> Image 11: The Tarn seen from the south with sphagnum mound in foreground.

Record Name: A walk from Thwaite Bridge to The Mossdale Tunnel on the abandonned Wensleydale Railway to the Mossdale Waterfalls
SWAAG ID Number: 883
Recorded Date: 2015-07-24 20:57:30
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Record Date: 2015-07-18
Location: Upper Wensleydale. Thwaite Bridge and Mossdale.
Civil Parish: Hawes
British National Grid: SD 8261 9224
Altitude: 276m
Geology: Glacial Drift over sandstones, shales and limestones below the Main Limestone.
Description: This walk will provide a photographic record of an interesting walk from Thwaite Bridge to the Mossdale Tunnel, which while only 245m in length, was one of the most difficult and expensive sections of the Wensleydale Railway to construct , costing Â£40.000.
From the Railway we recorded the vegetation and relict woodland seen within Mossdale Gill and within the higher waterfall ravines. This area is pathless and seldom visited.
Additional Notes: These gentle landscapes, the higher reaches of Upper Wensledale, provide an easy access across the National Divide, at an elevation of just 312m at the Moorcock Inn, to Sedbergh through Garsdale and to the Vale of Eden throgh Mallerstang and are very different from their equivalent landscapes above Keld in Upper Swaledale, which lead over Birkdale Common to Mallerstang Edge.
Last Update: 2015-07-26

Record Number 883 >>> Image 1: Thwaite Bridge with large colony of Melancholy Thistle. The walk commenced from here.

Record Number 883 >>> Image 2: Marsh Orchid. One of the many variants and in good form in the species-rich road verges.

Record Number 883 >>> Image 3: Marsh Orchid.

Record Number 883 >>> Image 4: The Mossdale Tunnel, eastern entrance.

Record Number 883 >>> Image 5: The Mossdale Tunnel, approach to the western exit entrance.

Record Number 883 >>> Image 6: The Mossdale Tunnel, western entrance.

Record Number 883 >>> Image 7: The bed of the abandoned railway continues towards Garstang.

Record Number 883 >>> Image 8: Mossdale Gill Head. Relict woodland with aspens visible on the low cliff at the head of the Gill below the conifer plantation

Record Number 883 >>> Image 9: The relict woodland with hollies,rowan, aspen,sallows and downy birch on the ravine cliffs contrasts with the conifer plantation.

Record Number 883 >>> Image 10: Relict woodland, Mossdale Gill

Record Number 883 >>> Image 11: Rowans are the only tree higher up at the Falls on Routing Gill

Record Number 883 >>> Image 12: Recording the species rich native woodland at the head of Mossdale Gill.

Record Number 883 >>> Image 13: Aspens in relict woodland on low sandstone cliff at the head of Mossdale Gill.

Record Number 883 >>> Image 14: Deep pool and low fall on Mossdale Beck

Record Number 883 >>> Image 15: Witches brooms on a Downy Birch tree at the head of Mossdale Gill.

Record Number 883 >>> Image 16: Detail of aspen with Hard Fern (Blechnum spicant)on low sandstone cliff at the head of Mossdale Gill.

Record Number 883 >>> Image 17: Native woodland on cliff below larch plantation

Record Number 883 >>> Image 18: Recording moorland vegetation higher up Mossdale Gill.

Record Number 883 >>> Image 19: Recording vegetation with Lemon Scented Fern on low shale cliff overlies the limestone in the bed of the stream, Routing Gill.

Record Number 883 >>> Image 20: Recording vegetation with Lemon Scented Fern on low shale cliff overlies the limestone in the bed of the stream, Routing Gill.

Record Number 883 >>> Image 21: Lemon Scented Fern, detail

Record Number 883 >>> Image 22: Ancient wind blown hollies and rowan on low sandstone cliff.

Record Number 883 >>> Image 23: Time to stop for lunch below the lower falls. Stone mine adit visible on opposite bank.

Record Number 883 >>> Image 24: Carpeting thyme is the most prominent flower on the stream gravels.

Record Number 883 >>> Image 25: The lower falls on Routing Beck. Rowan and downy birch the trees here.

Record Number 883 >>> Image 26: Foxgloves in their prime by the stream

Record Number 883 >>> Image 27: Foxgloves in their prime by the stream

Record Number 883 >>> Image 28: Washfold on Routing Gill

Record Number 883 >>> Image 29: Washfold on Routing Gill

Record Number 883 >>> Image 30: Glacial till or boulder clay exposed by stream erosion directly overlies the limestone bed of Routing Gill.

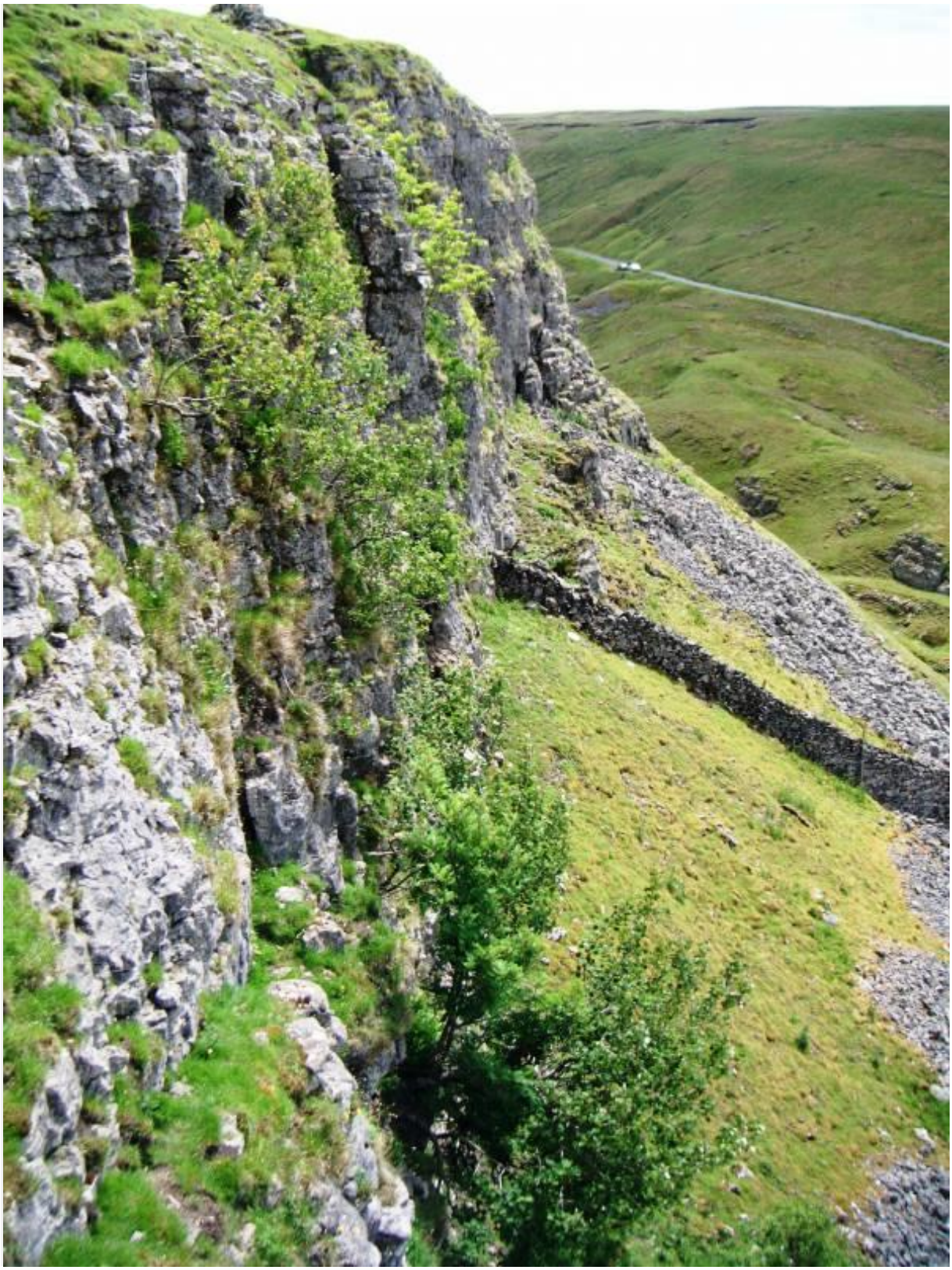
Record Name: Orgate Scar and Satron High Walls. High Swaledale Landscapes and Mining Remains
SWAAG ID Number: 892
Recorded Date: 2015-08-28 17:07:35
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: General HER
Site Access: Public Access Land
Record Date: 2015-08-21
Location: Satron High Walls
Civil Parish: Muker
British National Grid: SD 945 968
Altitude: 490m and above
Geology: For a full description of the complex faulted geological structures and extensive mining remains on Satron High Walls, see British Geological Survey: Geology of the North Pennine Orefield, Volume 2, Stainmore to Craven, Chapter 11.
Description: This record is a photographic note on the fine scenery enjoyed and the interesting mining remains visited during a recent walk by a small group of SWAAG members from Orgate Scar to Satron High Walls. The return to Orgate Gill crossed the strange lenticular chert hills on Satron Moor.

Additional Notes: For further general details and images of Oxnop Scar,see previous SWAAG Database Record No 680.
For details of the relict woodland on Oxnop Scar, which includes aspen and juniper together with the associated vegetation see previous SWAAG Database Record No 350. The vegetation on the cliff edge includes ash and Blackthorn at their local altitudinal limit.
SWAAG Site: Grinton Moor
Last Update: 2015-08-30

Record Number 892 >>> Image 1: Satron High Walls. The top of the world!

Record Number 892 >>> Image 2: The walk started from the unfenced road which runs along the top of Oxnop Scar, shown here from below the Scar. View Northward.

Record Number 892 >>> Image 3: Oxnop Scar viewed southward from below.



Record Number 892 >>> Image 4: Aspen Grove on Oxnop Scar. The prostrate juniper which grew with these aspens at the top edge of the Scar and photographed some years ago, see SWAAG Record No , is no longer visible.

Record Number 892 >>> Image 5: View westward down Oxnop Gill from the unfenced road above Oxnop Scar.

Record Number 892 >>> Image 6: View northward down Oxnop Gill from the unfenced road above Oxnop Scar.

Record Number 892 >>> Image 7: Lower of two adjacent lead bale sites seen during the walk.

Record Number 892 >>> Image 8: Lead slag. Black glassy slag present here.

Record Number 892 >>> Image 9: John looks for indications that zinc mineral is present.

Record Number 892 >>> Image 10: The upper of the two bale sites here.

Record Number 892 >>> Image 11: One of the frost shattered chert outcrops seen at the edge of the Moor during the walk.

Record Number 892 >>> Image 12: Ravens! Two of the family group of five ravens seen during the walk.

Record Number 892 >>> Image 13: Satron High Walls

Record Number 892 >>> Image 14: Satron Walls lead mine and hush. The line of this lead vein can be traced down slope to Low Walls

Record Number 892 >>> Image 15: Satron Walls lead mine and hush. A mine with a view.

Record Number 892 >>> Image 16: Iron wedge. Visible evidence for early plug and feather mining here!

Record Number 892 >>> Image 17: Frost shattered and bleached chert surfaces once covered by blanket peat up to 1.0m thick form white isolated rounded hills a contrast to the brown sedge moorland.

Record Number 892 >>> Image 18: John, as always examines the details of the exposed chert strata.

Record Number 892 >>> Image 19: Here, the small lenticular algal fossil structures in the chert are reminiscent of stromatolites and very large oncolites.

Record Number 892 >>> Image 20: John examines the frost shattered surface of the chert which is exposed by erosion of the overlying blanket peat.

Record Number 892 >>> Image 21: Lead mine shaft mounds visited at the head of Stotter Gill during the return walk

Record Number 892 >>> Image 22: Lead mine shaft mounds at the head of Stotter Gill

Record Number 892 >>> Image 23: A fine group of the well named, heavily scented Musk Thistle (Carduus nutans).

Record Number 892 >>> Image 24: Cedar Wax Cap. So named as when stored in a box, it is reputed to smell of aftershave, whatever that smells like.

Record Name: Gunnerside Gill. High Scar. One of the finest limestone Scars in the Yorkshire Dales.
SWAAG ID Number: 917
Recorded Date: 2016-02-24 17:18:24
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2016-02-19
Location: Gunnerside Gill, High Scar
Civil Parish: Melbecks
British National Grid:
Altitude: 530m
Geology: Vertical cliff formed from the Main Limestone. Lidar images show that High Scar was the source of a vast landslip which extended all the way down slope to Gunnerside Beck. High Scar was once masked by unstable glacial debris and only revealed following this vast land slip caused by unstable glacial deposits slumping during late glacial conditions of high meltwater.
Subsequent freeze-thaw of the face of the thin- bedded limestone Scar has formed the extensive screes below the cliff.
Description: Unlike many other exposed limestone cliffs in Swaledale, for example Whitcliffe Scar, Oxnop Scar, Fell End Scar and Cotterby Scars- no trees grow on the face of this high limestone cliff. The reason may be elevation, aridity and full exposure to the west winds. However trees are able to withstand wind if securely rooted. Unlike the above listed Scars which are massively bedded, the limestone strata of the High Scar above Gunnerside Gill is thin bedded, fractured and cannot support the load of mature trees.
Dimensions: See photographs
Additional Notes: Just one small stone banked enclosure with probable hut circles was noted on the bottom edge of the scree slope (See separate Database Record to follow). Fieldhouse and Jennings (1978) in 'A History of Richmond and Swaledale'. (Phillimore, 1978), noted the absence of prehistoric hut circle settlement below High Scar and on the basis that similar locations, albeit not so high, below Scars in Wharfedale or Wensleydale would show hut circle settlement, concluded that early settlement in Swaledale generally was sparse..
Last Update: 2016-02-26

Record Number 917 >>> Image 1: The approach to High Scar

Record Number 917 >>> Image 2: The High Scar and extensive scree below.

Record Number 917 >>> Image 3: Stone banked enclosure at front of scree.

Record Number 917 >>> Image 4: Detail of the scree and a small stone banked enclosure.

Record Number 917 >>> Image 5: Detail of the scree and a small stone banked enclosure.

Record Number 917 >>> Image 6: Example of the colonial coral fossils in the scree below the Scar

Record Number 917 >>> Image 7: Example of the colonial coral fossils in the scree below the Scar

Record Number 917 >>> Image 8: Example of the colonial coral fossils in the scree below the Scar

Record Number 917 >>> Image 9: View of the Scar, kame and pro-talus rampart from the eastern end.

Record Number 917 >>> Image 10: The approach to the Kining Mine from High Scar

Record Name: Views northward to Mallerstang Edge from the upper slopes of Shunner Fell
SWAAG ID Number: 940
Recorded Date: 2016-08-10 13:45:31
Recorded by: Tim Laurie
Category: Geographical Record
Record Type: Northern Britain
Site Access: Public Access Land
Record Date: 2016-08-09
Location: Shunner Fell
Civil Parish: Muker
British National Grid:
Altitude: 700m
Description: The upper slopes and summit ridge of Shunner Fell provide some of the best views of distant Pennine landscapes. This is especially so during periods of approaching showers with contrasts of fells illuminated by bright sunshine or in distant outline under black rain cloud.
Additional Notes: Photographed during a walk over Shunner Fell to photograph and record the high Fell flora on Tuesday 09 August 2016.
Last Update: 2016-08-10

Record Number 940 >>> Image 1: View northward from the upper slopes of Shunner across Great Sleddale head to High Seat and Mallerstang Edge. Nine Standards in the distance.

Record Number 940 >>> Image 2: Detail of a distant landscape

Record Number 940 >>> Image 3: View north-westward from the upper slopes of Shunner across towards High Seat and Mallerstang Edge. Wild Boar Fell in the distance.

Record Number 940 >>> Image 4: Detail of a distant landscape