

British Bryological Society, Autumn Meeting and AGM. Merionethshire. September 11th – 18th.

Our spring meeting is somewhat centred around the Rhinog range of mountains. The Rhinogydd is a rough and rugged upland landscape with blocky schist underlying the heather. Cliffs, boulders, small lakes and blanket bog also characterise this landscape. The landscape is also littered with standing stones and burial sites. The soils are wet, very acid and infertile largely because of high rainfall with an annual average rainfall of 2,000 mm.

Basic Programme

Saturday 11th September: For those arriving at Plas Caerdeon, please do not arrive before 2pm to allow for cleaning. Council Meeting 19.30 at Plas Caerdeon. Dinner for residents at 18.00. Local Recording (see programme).

Sunday 12th September: Shorter field day with AGM at Plas Caerdeon at 16.30 followed by Society Dinner at 18.30.

Monday 13th – Friday 17th September: Field Visits

Saturday 18th September: Depart from Plas Caerdeon by 10am

COVID 19

As per the Welsh Government Regulations

Attendees staying or visiting the Hall or Cottages

Should wear a face mask in all public areas. This includes the AGM and Council meeting and you should take a lateral flow test before you come and it is **assumed** that all are double vaccinated. Please fill in the Plas Caerdeon risk assessments if you are coming into the Hall. There will be spares at the Hall for those who do not have a copy.

When and where to meet to discuss recording options.

Either meet at the Hall the previous evening or at 09.00 to organise car sharing and meeting places. Please see exception on Wednesday 3rd Site with Sam Bosenquet.

Recording Cards

Please return these to Mags Crittenden at the end of the day or when complete. Address to send these to: 80 Leamington Drive, Chilwell, Nottingham. NG9 5LN.

Photographs and meeting notes

You will be given a file sharing address to upload any photos that you may have taken during the day. These would be very much appreciated by the organisers in preparation for the meeting write-up in Field Bryology and for publication on the website. Please ensure you place your images in a folder with your name, day and site visited plus any notes to do with the meeting or species photographed. The odd humorous vignette would be gratefully received. The wi-fi at Plas Caerdeon can be a little variable, so uploading might be better at home but we would prefer if they could be done immediately.

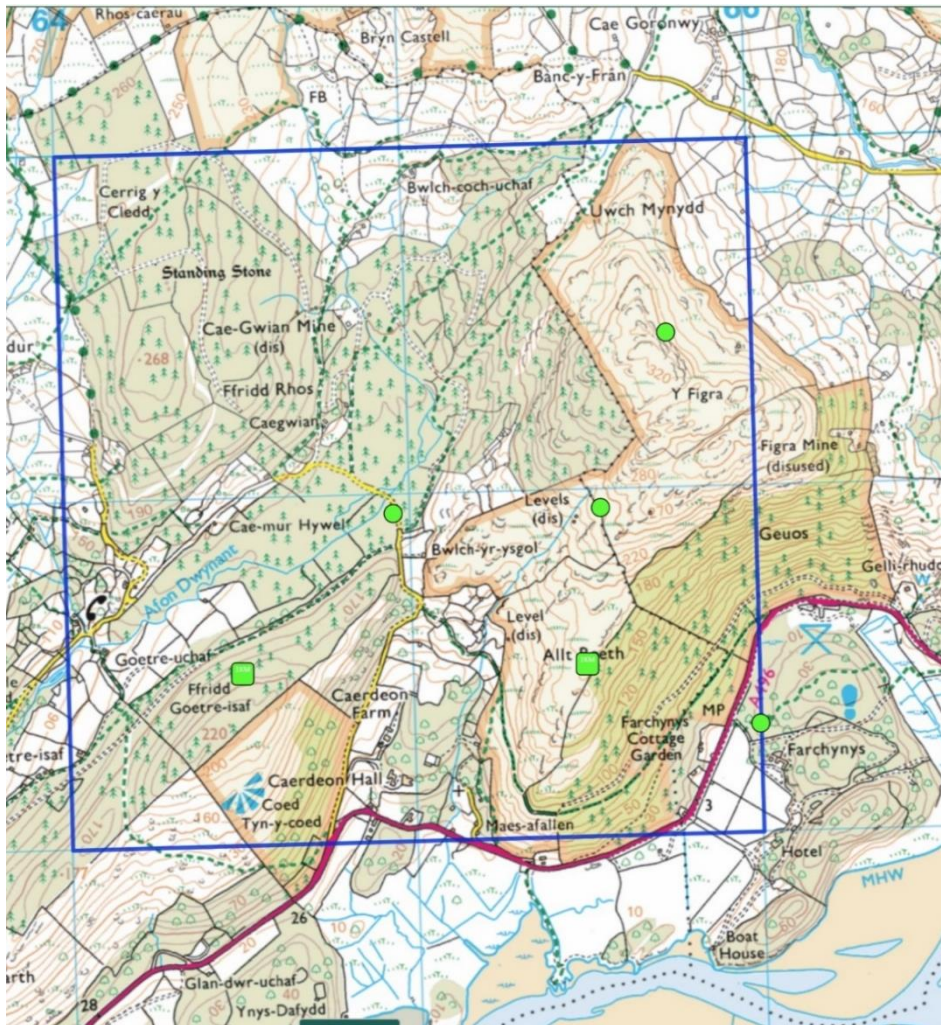
SATURDAY 11TH SEPTEMBER/ SUNDAY 12TH SEPTEMBER

SH61P (28 records) (SH6418 (12 records pre 2000), SH6419 (no records), SH6518 (one record), SH6519 (10 records from 2000)). Tetrads containing Plas Caerdeon. The woods, streams and waterfalls surrounding Plas Caerdeon have not been fully recorded yet. The grounds are extensive and comprise oak/ birch woodland with *Rhododendron ponticum* and streams, one of which has been dammed. The grounds straddle two monads. There is some microgabbro (pink) and quartz (purple) bedrock which may be visible in the open access land. The Cae-Gwain and Figra disused mines still have remains in the hills and may be worth a look. Copper then gold was mined at the Figra mine and Gold at the Cae-Gwain mine. At SH642196 there is the remains of a standing stone, which probably dates to the Bronze Age (c. 2300 - 800 BC). This prominent stone, about 1.5m high, stands within a coniferous plantation, adjacent to a forestry access track. Earlier accounts record a cairn circle immediately to the NE of the stone. If you fancy looking for Cerrig y Cledd, or Sword Stones (see below) at about SH643199, there is a large natural stone, apparently split in two, each seemingly bearing half the imprint of a sword within the rock. Attributed to Arthurian legend, and may be the reason for the naming of the stone circle a little to the west, "Cerrig Arthur". The tetrad also contains Coed Tyn-y-coed which belongs to the Woodland Trust. Malcolm Watling has suggested we look closely for *Telaranea europaea* in among the old *Rhododendron*. Refer to his article in FB November 2013.

Getting there: Possible parking at SH64911884 for those wishing to avoid a steep climb or try SH646190 which takes you into the north-west monad. Park car at about SH641192 at the end of the tarmacked road if you want to be nearer to the sword stones. Park at Pls Caerdeon to access woodlands behind centre.

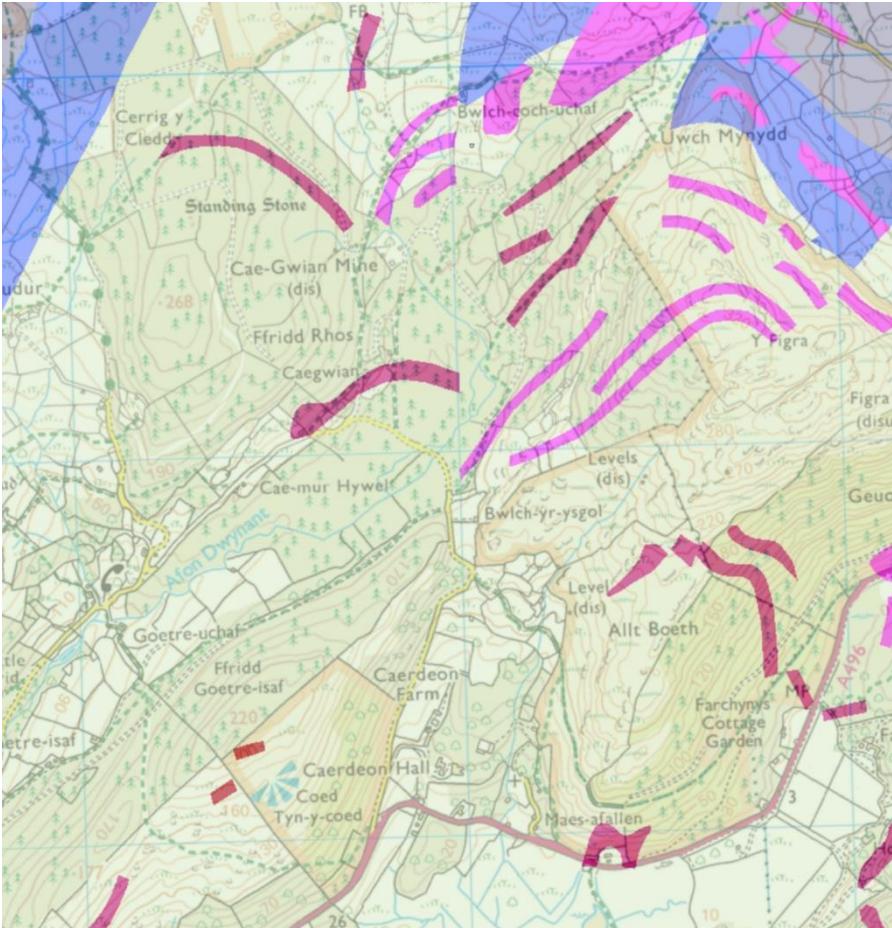
Permission: Open access, Plas Caerdeon, NRW (Forestry)

Safety: The *Rhododendron* has been treated with herbicide in December 2019 which (we have been informed) will have broken down to harmless bi-products now. Please be aware that the gales last year have caused some tree damage and caution should be exercised when in the woodland.



Geological Map

Pale green = Maentwrog Formation (mudstone, siltstone and sandstone); **dark pink** = Unnamed Igneous Intrusion, Ordovician (quartz); **grey** = Gamlan Formation (pyritic mudstones and coarse-grained sandstones with some manganiferous mudstone); **blue** - Clogau formation (black pyritous and carbonaceous mudstones and silty mudstones with rare silt laminae and sparse fine-grained sandstone beds); **pink** - microgabbro intrusions (rich in iron and magnesium and poor in silica). It occurs as small intrusions called 'dykes' or 'sills' which are sheet-like and cut through the surrounding rocks.



The following suggestions are within a short distance of Plas Caerdeon to allow participants to attend the AGM at Plas Caerdeon at 16.30. In addition to these, the area behind Plas Caerdeon could be revisited.

SUNDAY 12TH SEPTEMBER

FIRST SITE

SH62V: SH 6821 and SH 6920: North and east of Coed Garth Gell

These monads surround the RSPB reserve of Coed Garth Gell to the north and east are under recorded. SH6920 has 12 records including *Bazzania trilobata*, *Breutelia chrysocoma*, *Cephalozia curvifolia*, *Metzgeria conjugata*, *Chionoilema tenuiristre*, *Plagiochila spinulosa*, *Thuidium delicatulum*, *Leucobryum juniperoideum*, *Plagiochila bifaria* (2002) however SH 6821 has no recent records.

Getting there

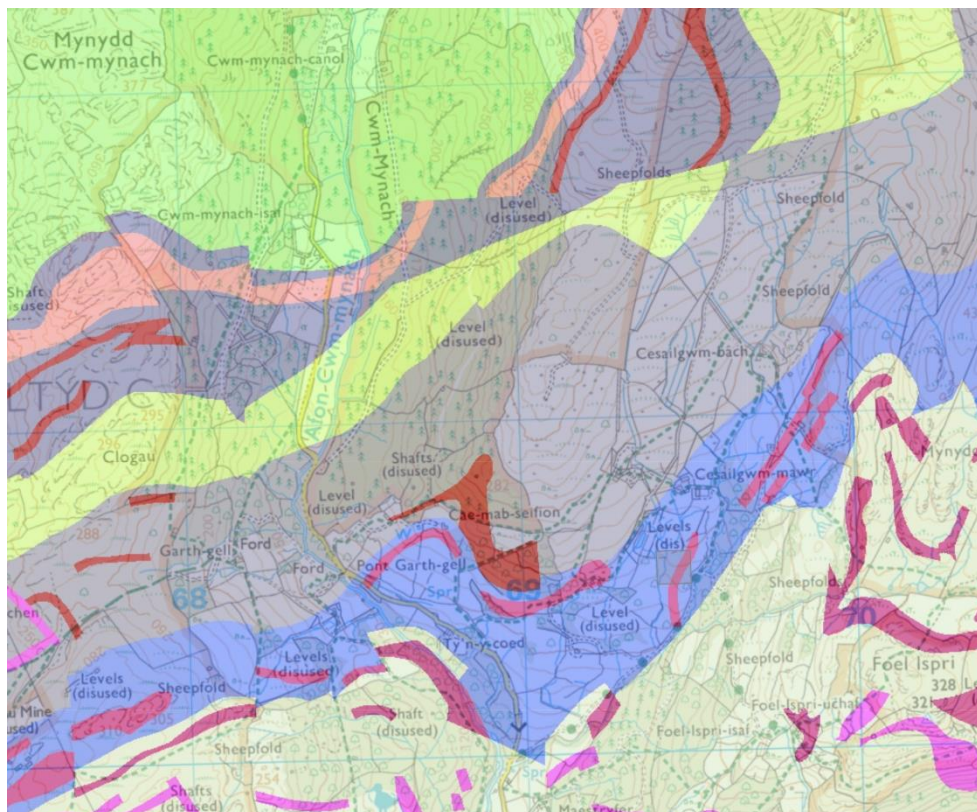
There are a number of places to park on the minor north-south road. Or if you would like to walk in via the RSPB NR Coed Garth Gell (which is well recorded), from Plas Caerdeon, turn left onto the A496 towards Dolgellau. Before you reach the village of Taicynhaeaf and after the village of Bontddu, there is a left-hand turn into a horseshoe shaped layby with a small picnic area, managed by Snowdonia National Park, known locally as Fiddlers Elbow at SH678189 (see arrow below). There are places for a small number of vehicles to park. The reserve can be accessed by walking from the layby up the public footpath along the private access road going immediately up the hill. As you walk up the access road, look for the RSPB sign on the gate on the left which takes you along the public footpath into the reserve. There are also parking spaces at the blue arrows approximately SH68382090 and SH68462055. Access code for Cwm Mynach lower gate which is 1000. Please close the gate after you (Woodland Trust has requested I ask you).

Permission PROW, RSPB, Woodland Trust and Open Access

Safety: BBS Risk Assessment and there are some steep areas so care needs to be taken with slips and trips.



Geological Map. **Pale green** = Maentwrog Formation (mudstone, siltstone and sandstone); **dark pink** = Unnamed Igneous Intrusion, Ordovician (quartz); **grey** = Gamlan Formation (pyritic mudstones and coarse-grained sandstones with some manganiferous mudstone); **blue** = Clogau formation (black pyritous and carbonaceous mudstones and silty mudstones with rare silt laminae and sparse fine-grained sandstone beds); **pink** = microgabbro intrusions (rich in iron and magnesium and poor in silica). It occurs as small intrusions called 'dykes' or 'sills' which are sheet-like and cut through the surrounding rocks; **red** = Unnamed Igneous Intrusion, Ordovician (diorite and gabbro); **dark grey** = Haffoty Formation (grey, thin-bedded turbiditic sandstones with manganiferous mudstones); **yellow** = Barmouth formation (coarse grained turbiditic sandstone and subordinate mudstone)



SUNDAY 12TH SEPTEMBER

SUNDAY 12TH SEPTEMBER : SECOND SITE

2) SH61I Panorama Walk SH6216 (25 species records); SH6317 (40 species records); SH 6217 (no records) and SH61J

The Panorama Walk route covers the 4 monads of this tetrad. It has some marvellous views of the surrounding countryside. It could be rechristened the Barmouth Manganese Trail as much of it follows the line of old workings or the roads that serviced them. A long deposit of Manganese bearing rock stretches almost due north from Barmouth, and was host to multiple mining operations in the late 1800s. During the operation of these mines, the main applications of manganese were bleach manufacture (for use in the burgeoning cotton industry), glass production and steel making. Manganese was used to improve the wear resistance and hardness of steel, and with the industrial revolution well underway, this quickly be-came (and remains) the largest single use. The quarry to the left of the '100 steps', on the side of Dinas Oleu, is listed as a manganese working, and the well-made tracks around Gellfawr and Cell Fechan farms were most likely service roads for nearby mines.

At the village of Cutiau (about SH632175) you will pass the old Victorian gardens on your right. They were rather grandly known as the 'Panorama Pleasure Grounds.' Originally a Tea Room stood just beyond the gate, and there was at that time a view from this cafe, as well as higher up. This area is now a grade II Registered Park and Garden. At about SH633173 there is an old chapel.

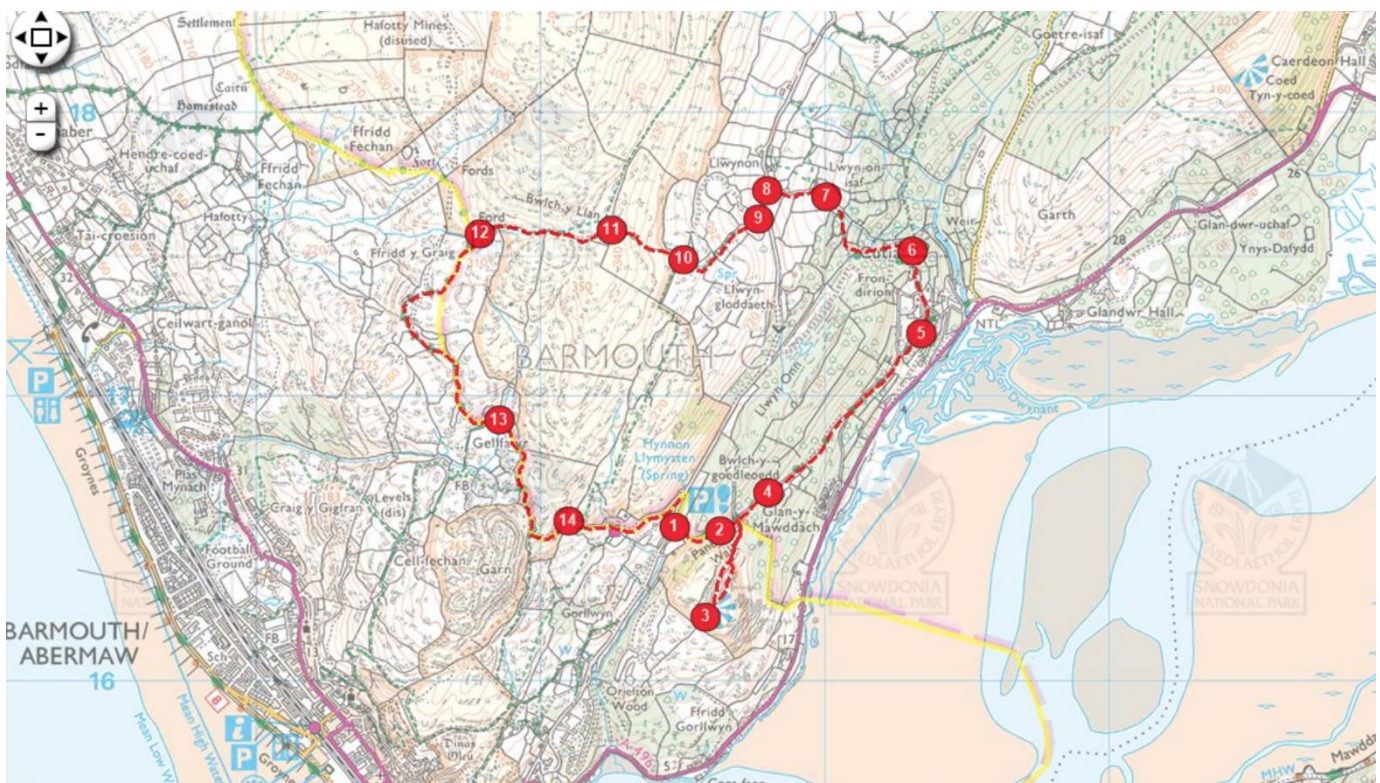
SH61J SH6318 (5 records)

Going a little further west to SH6318 includes a monad with only 5 records which include *Ctenidium molluscum*, *Palustriella commutata*, and *Scorpidium revolvens*.

Getting there: On the A496 from Dolgellau into the town of Barmouth, just before the row of 4-storey Victorian houses (Porkington Terrace), take a sharp right along a narrow road uphill passing the Bae Abermaw Hotel. Follow this road for a about a mile until you reach the SNPA roadside parking on your right. The route below is about 6.5km.

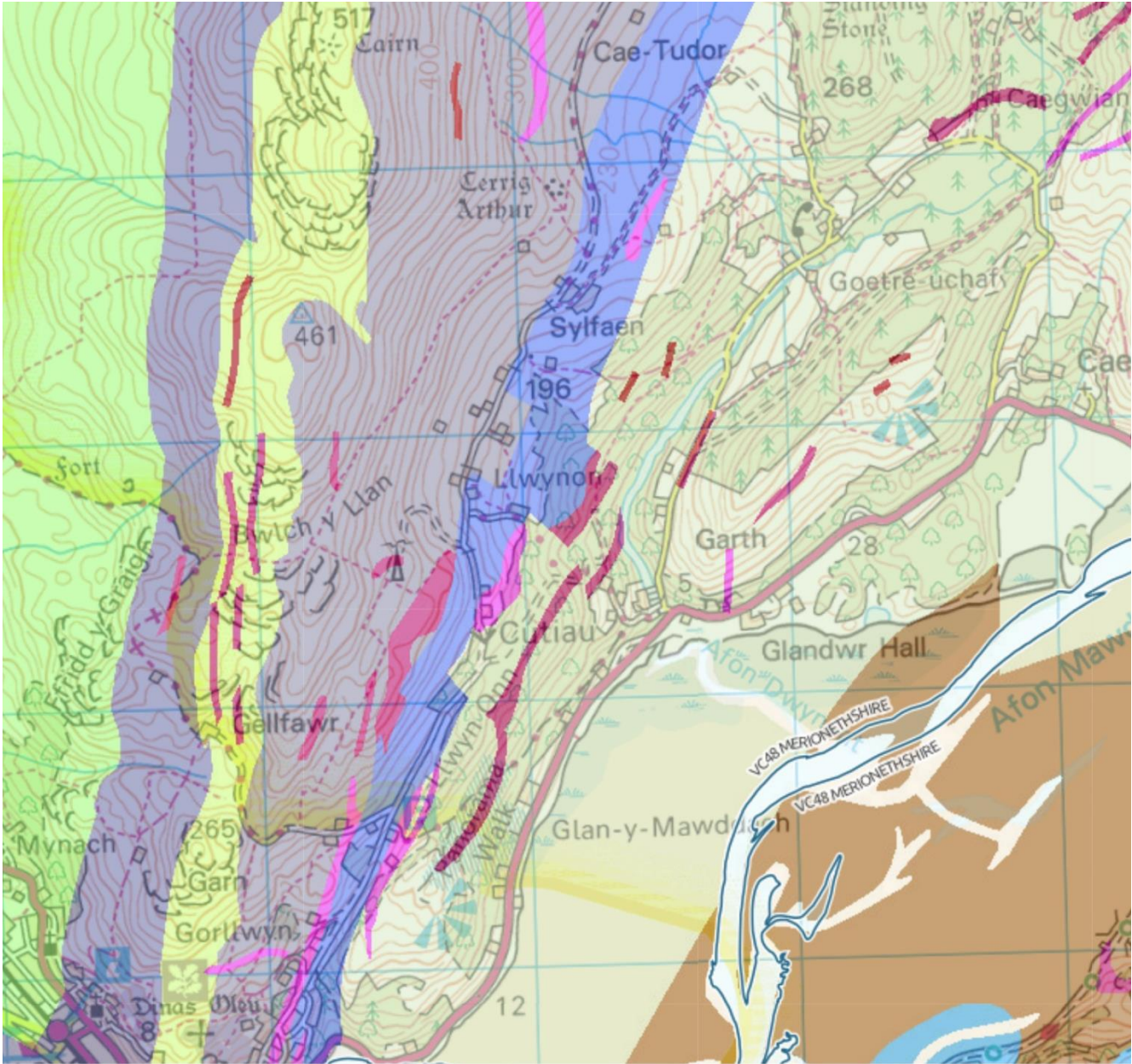
Permission: PROW and Open Access

Safety: There are no particular hazards in addition to those specified in the BBS risk assessment.



Geological map

Pale green = Maentwrog Formation (mudstone, siltstone and sandstone); **dark pink** = Unnamed Igneous Intrusion, Ordovician (quartz); **light pink** = microgabbro intrusions (rich in iron and magnesium and poor in silica). It occurs as small intrusions called 'dykes' or 'sills' which are sheet-like and cut through the surrounding rocks); **blue** - Clogau formation (black pyritous and carbonaceous mudstones and silty mudstones with rare silt laminae and sparse fine-grained sandstone beds); **yellow** – Barmouth formation (coarse grained turbiditic sandstone and subordinate mudstone); **grey** = Gamlan Formation (pyritic mudstones and thin, coarse-grained turbiditic sandstones and with manganiferous mudstones)



MONDAY 13TH SEPTEMBER: FIRST SITE

Low level route

SH52W (SH5822 (22 records pre 2000), SH5823 (14 records pre 2000), SH5922 (60 records well recorded primarily in SSSI), SH5923 (no records but includes the tip of the SSSI)).

Range of urban/ agricultural/ woodland and streamside habitats. This area includes the SSSI, Coed Cors y Gedol, (SH598224) which has been well recorded. These are part of the sessile oak woodlands of southern Snowdonia which form one of the most important areas for woodland conservation in Europe. Coed Cors y Gedol is of European importance and as such forms part of the Meirionnydd Oakwoods and Bat sites Special Area of Conservation (SAC). It may be worth a visit.

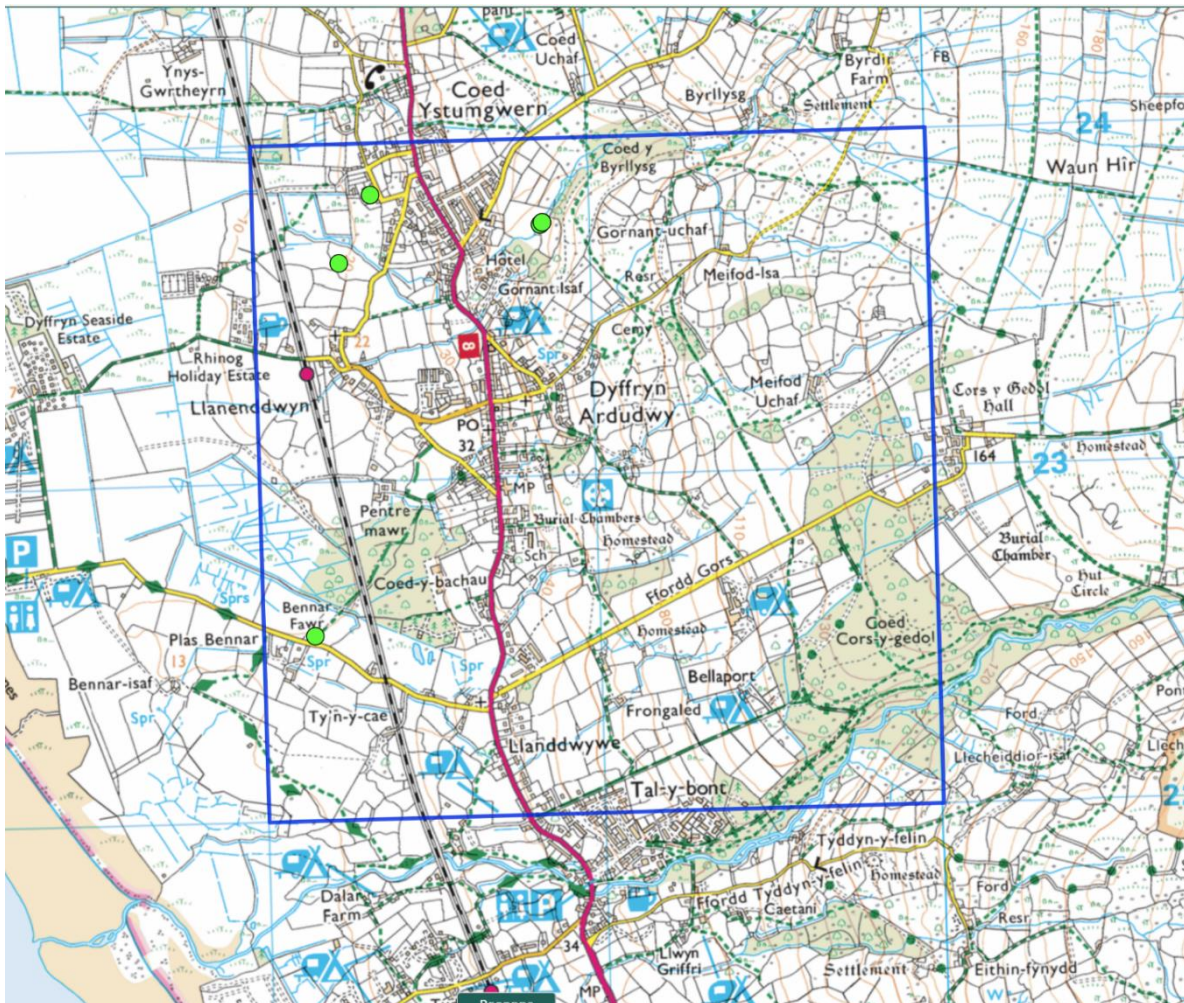
In addition, there are Burial Chambers at about SH58842284 which are neighbouring tombs built several generations apart. They are Neolithic in origin and well preserved. The smaller one is a dolmen (or cromlech) which features two portal stones and a high blocking slab with a capstone rested on top, and was covered by a small, roughly circular cairn. Several generations later the larger tomb to the east was built and buried beneath a wedge-shaped cairn. There are a number of old churches in the vicinity of Dyffryn Ardudwy including St DDwywe at SH58632233 which is a Grade 2 listed building.

Getting there:

There is a CP at SH58972181, just north of the river. You can then follow the river on the north bank until you reach the tetrad. There are no records for SH5921, so feel free to start a card as you walk along this bit of the river to the SSSI.

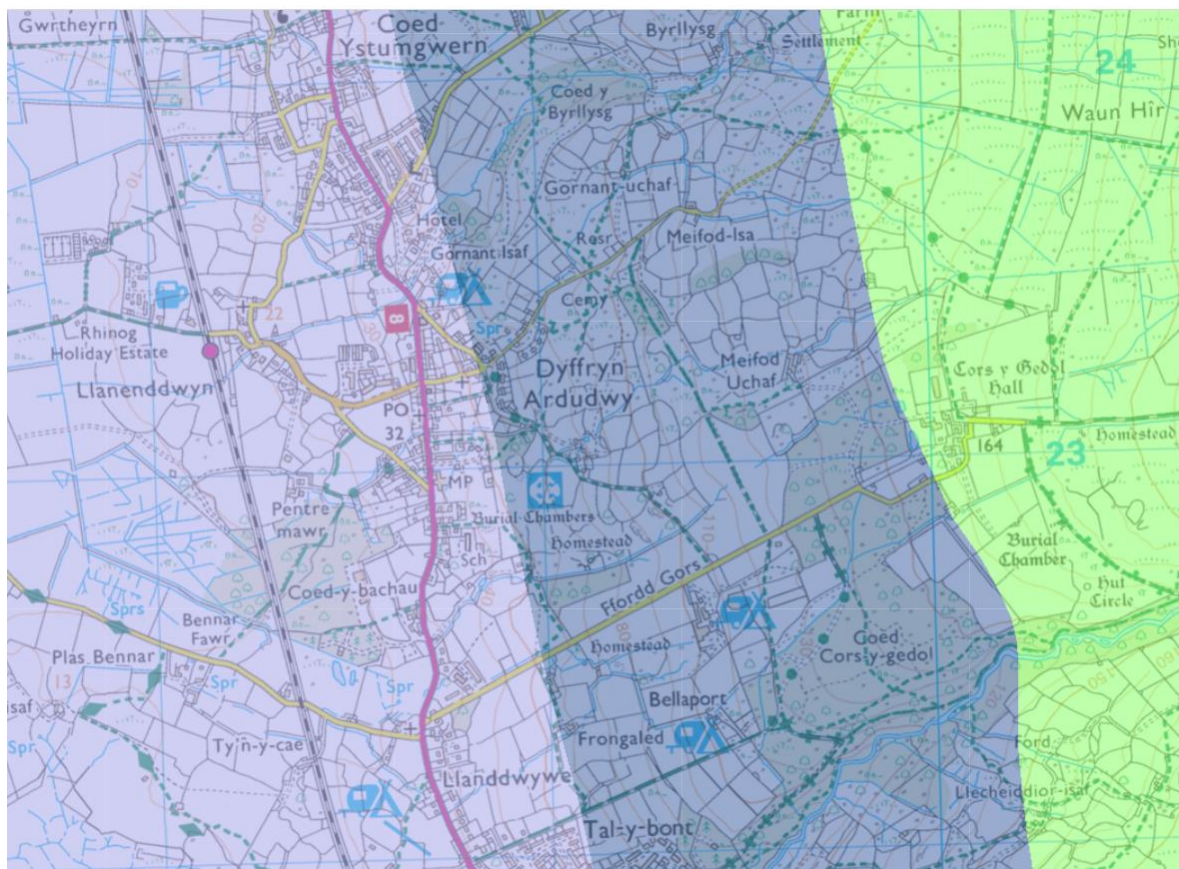
Permission: We had permission last year from Mr E S Bailey. Cors Y Gedol Hall Lodge, Dyffryn Ardudwy, LL44 2RJ. 01341 247231; 01341 241700.

Safety: There are no particular hazards in addition to those specified in the BBS risk assessment.



Geological map

Light grey: Palaeogene and Neogene Rocks (Undifferentiated) – silt and clay; **dark grey:** Llanbedr formation (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds) (dark grey); **green:** Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations).



Limits of Coed Cors y Gedol SSSI



SECOND SITE

MONDAY 13TH SEPTEMBER: SECOND SITE Coed Llechwedd SSSI and SAC

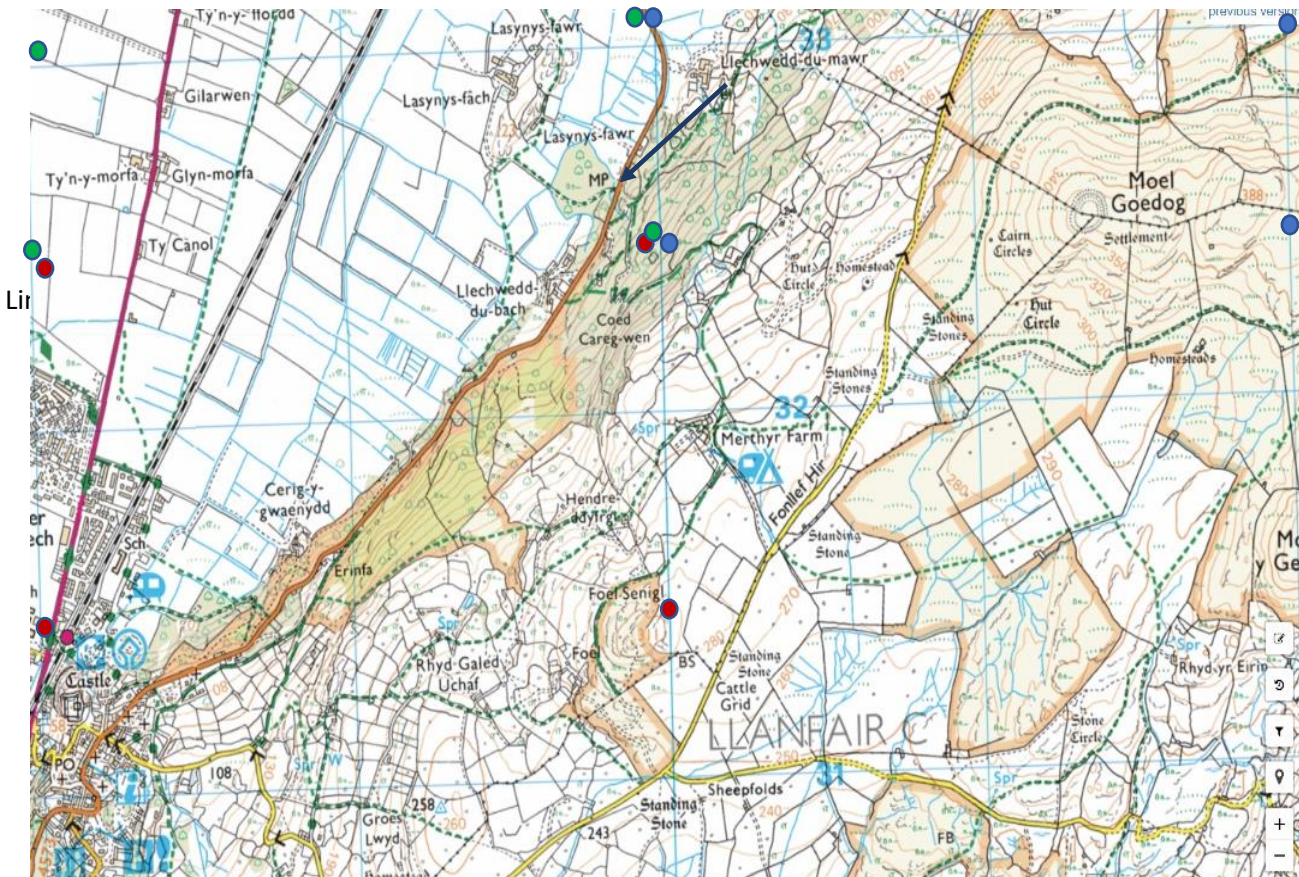
Low Level

SH63B (●), SH53V (●), SH53W (●) (SH6032, SH5932, SH5931, SH5831). Includes Coed Llechwedd SSSI and SAC which covers four monads in three tetrads. There are very few records for this oak woodland and forms part of the Meirionnydd Oakwoods and Bat Sites SAC which stretches from Dolgellau in the south to Eryri in the north. The woodland to the south-west in SH5931, which is open access, belongs to the Woodland Trust, is not grazed and is overrun (according to the local farmers) by bracken and bramble. There are long term plans for this area.. If you wish to go up to the hill, there is a megalithic ring cairn at Moel Goedog, at SH609324 and the remains of a small hillfort at the top of the hill with a commanding view. The hill is ploughed and used as pasture and may be of little interest except that there are some microgabbro intrusions. *Stereodon callichrous*, *Grimmia hartmanii*, are very old records for SH6032.

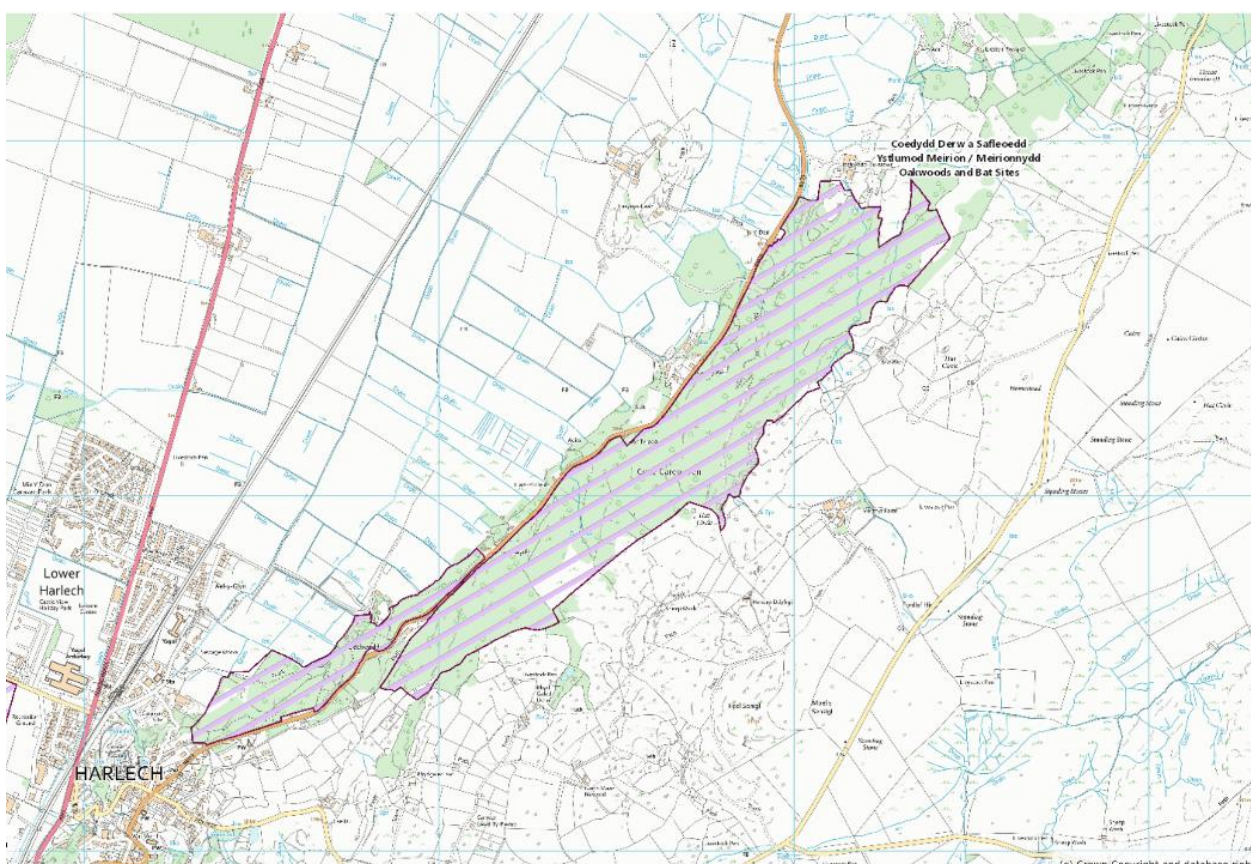
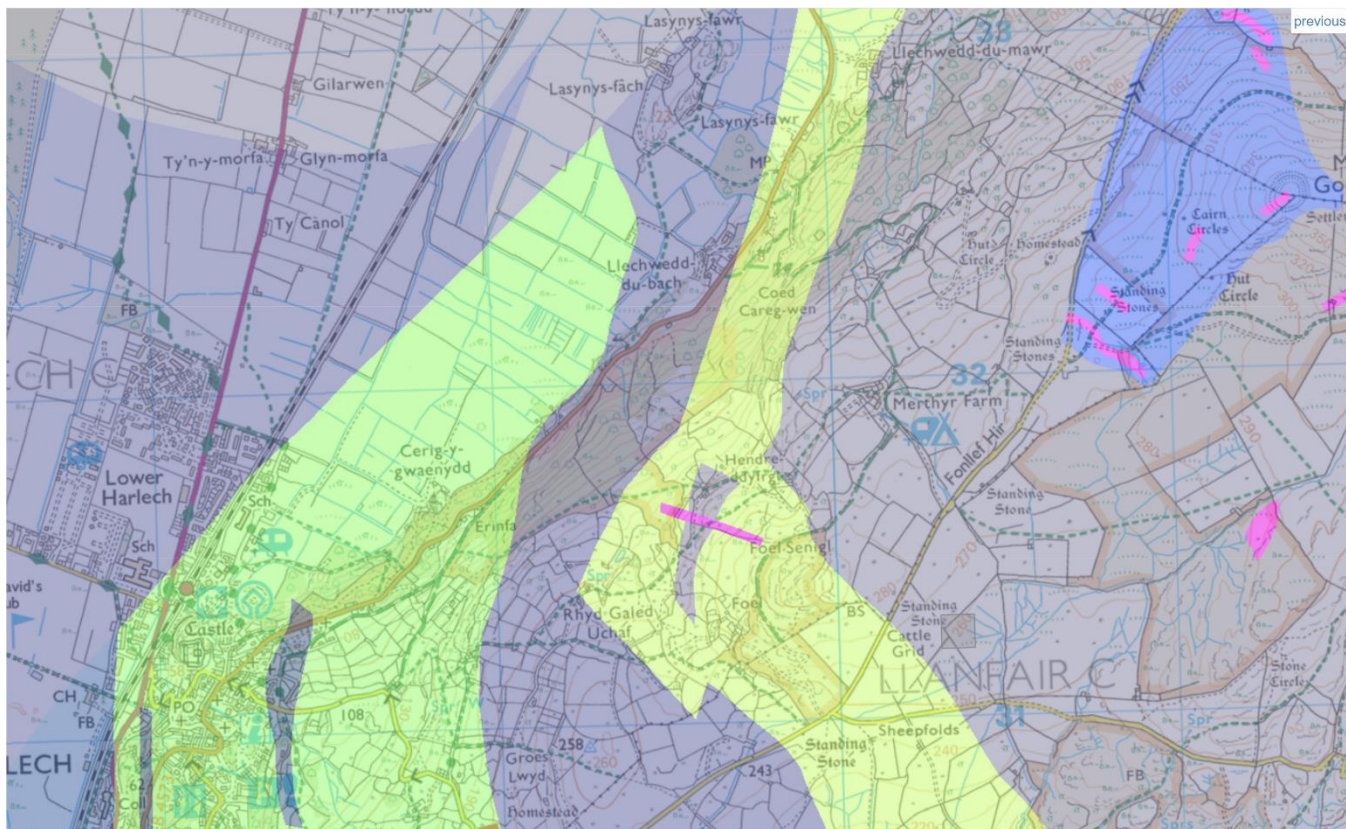
Getting there: Park at SH59923272, the CP for Y Lasynys Fawr Historic house (on the left after leaving Harlech). There will be a chain across the car park – its OK to undo it to park (then re-attach it). Walk back towards Harlech about 250m on the left, there is a public bridlway (please be careful – there is no footpath). Alternatively, you can park at Bron Y Graig, Harlech, LL46 2SR which is a long stay carpark in Harlech. Cost about £5.50.

Permission: Some of the woodland is owned by Lord Harlech. Mr R B Roberts of Merthyr Farm (SH601319) has given permission for the BBS to go wherever they need to on his land. Tel: 01766 780897. The Woodland Trust has given permission for access to the woodland and some of it is Open Access. The woodland to the west of the B4573 belongs to the National Trust. This woodland would need to be accessed from Harlech.

Safety: BBS risk assessment in addition, accessing the bridlway from the B4573 between the car park and the PROW bridlway is along a road with no pathway. The woodland is steeply sloping, take care when accessing areas of the PROW.



Geological Map: **dark grey** – Haffoty Formation (grey, thin-bedded turbiditic sandstones with manganiferous mudstones); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **blue** - Clogau formation (black pyritous and carbonaceous mudstones and silty mudstones with rare silt laminae and sparse fine-grained sandstone beds); **pink** - microgabbro intrusions (rich in iron and magnesium and poor in silica). It occurs as small intrusions called 'dykes' or 'sills' which are sheet-like and cut through the surrounding rocks; **yellow** – Barmouth formation (coarse grained turbiditic sandstone and subordinate mudstone).



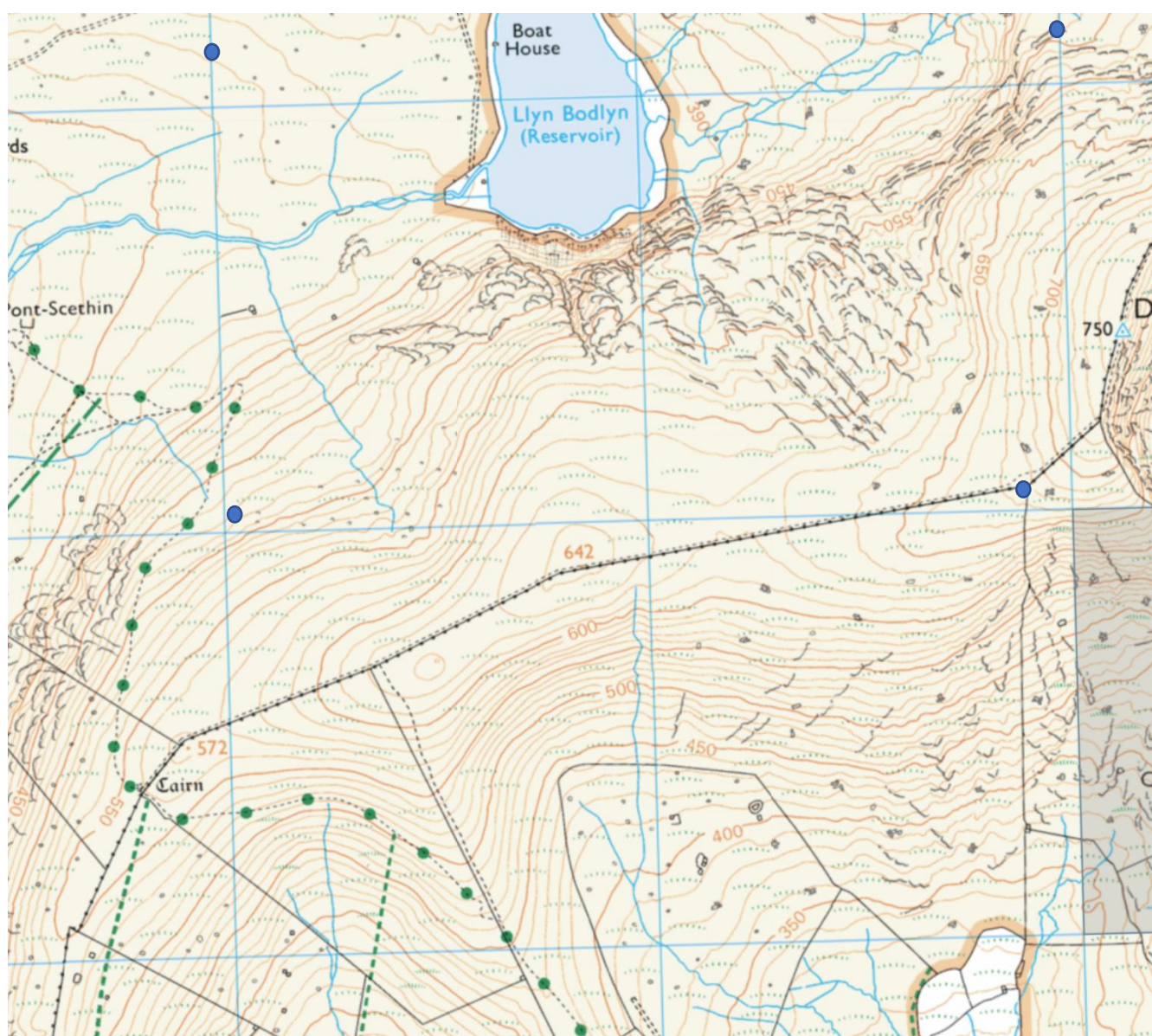
MONDAY 13TH SEPTEMBER: THIRD SITE Dyffryn Ardudwy**High Level****SH62L (SH6422, SH6423, SH6522, SH6523).**

Most of the bedrock is acidic in nature but at around SH640220 there is a **gabbro deposit** where *Plagiopus oederianus* could in theory be refound. Llyn Bodlyn is a sizeable reservoir, originally damned in 1894 to supply water to Barmouth. SH62M will also be recorded on the same day. *Gymnomitrium obtusum* was found by Peter Benoit on the slopes of Diffwys in 1965. Some other scattered records.

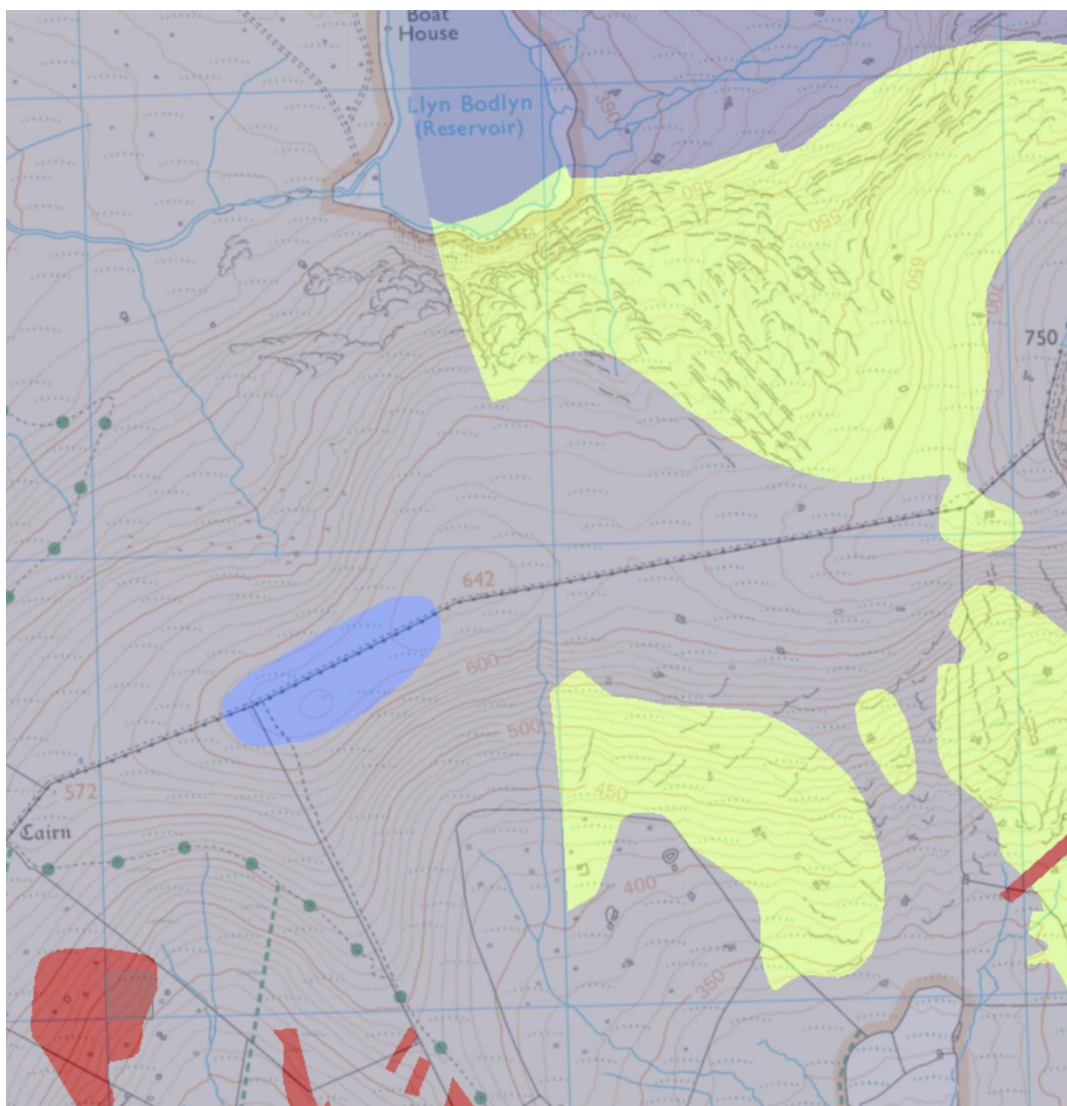
Getting there: We can park at the reservoir but it's limited to 3/4 cars. Drive towards Dyffryn Ardudwy going north from Barmouth. Turn right onto the long straight road of Ffordd Gors towards Cors y Gedol Hall. Look for a pair of stone pillars topped with stone balls just past the bridge over the river. There is limited parking at CP just E of Cors y Gedol, small carpark with honesty box (SH602231, nearest postcode: LL43 2AT). Last year was £1. The track leading to the reservoir carries on from this minor road and is most suitable for a 4x4, but having walked up the track, I think you could take a car as long as its not too low slung. There are pot holes at intervals but no more than about 7cm in depth. With careful driving- it may be possible. There is a path around the reservoir and over the outlet stream. Easier ascents may be via the path.

Permission: Open Access

Safety: BBS Risk assessment



Geological Map. **Grey** = Gamlan Formation (pyritic mudstones and coarse-grained sandstones with some manganiferous mudstone); **blue** = Clogau formation (black pyritous and carbonaceous mudstones and silty mudstones with rare silt laminae and sparse fine-grained sandstone beds); **red** = Unnamed Igneous Intrusion, Ordovician (diorite and gabbro); **dark grey** = Haffoty Formation (grey, thin-bedded turbiditic sandstones with manganiferous mudstones); **yellow** = Barmouth formation (coarse grained turbiditic sandstone and subordinate mudstone)



MONDAY 13TH SEPTEMBER: FOURTH SITE Dyffryn Ardudwy**High Level**

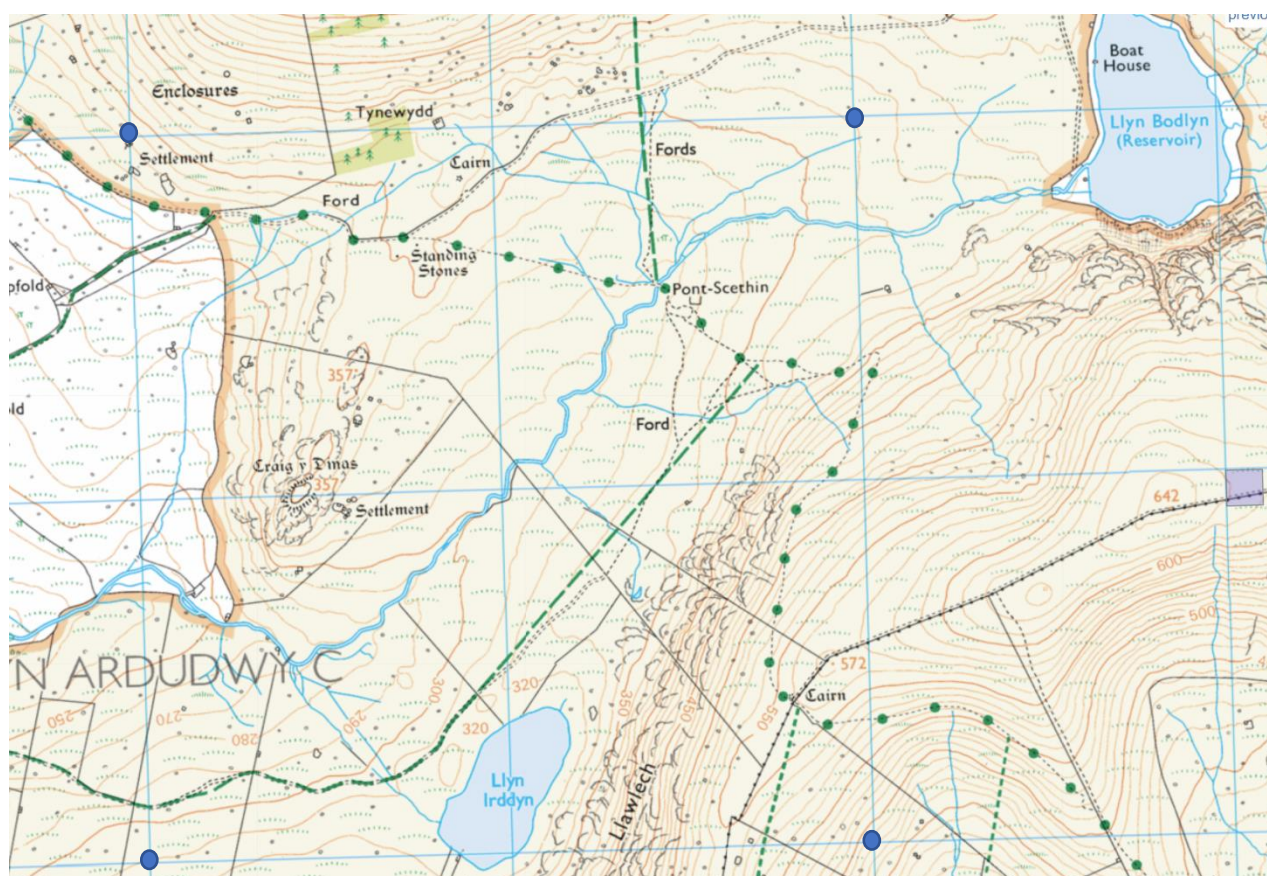
SH62G (SH6223 (no records), SH6222 (no records), SH6323 (10 records), SH6322 (no records)).

Most of the bedrock is acidic in nature but at around SH639220 there is a **gabbro deposit**. Llyn Bodlyn is a sizeable reservoir, originally damned in 1894 to supply water to Barmouth. SH62M and SH62L will also be recorded on the same day. The bridge at SH634235 and the settlement at Tynewydd (even though its outside the tetrad) is worth checking out.

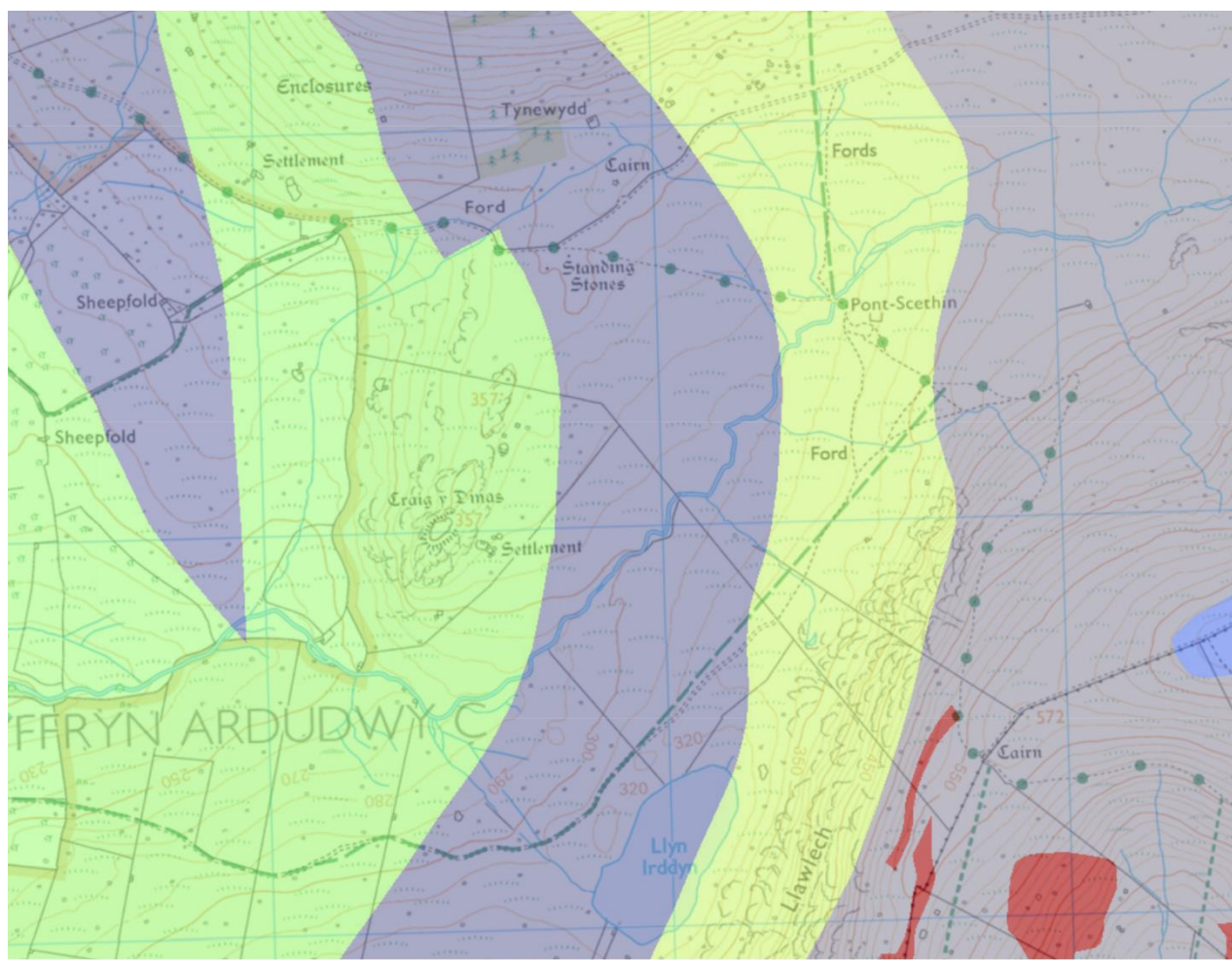
Getting there: We can park at the reservoir but its limited to 3/4 cars. Drive towards Dyffryn Ardudwy going north from Barmouth. Turn right onto the long straight road of Ffordd Gors towards Cors y Gedol Hall. Look for a pair of stone pillars topped with stone balls just past the bridge over the river. There is limited parking at CP just E of Cors y Gedol, small carpark with honesty box (SH602231, nearest postcode: LL43 2AT). Last year was £1. As of March 2020, The track leading to the reservoir carries on from this minor road and is most suitable for a 4x4, but having walked up the track, I think you could take a car as long as its not too low slung. There are pot holes at intervals but no more than about 7cm in depth. With careful driving- it may be possible.

Permission: Open Access.

Safety: BBS Risk Assessment



Geological Map. **Grey** = Gamlan Formation (pyritic mudstones and coarse-grained sandstones with some manganiferous mudstone); **dark grey** = Haffoty Formation (grey, thin-bedded tubiditic sandstones with manganiferous mudstones); **yellow** = Barmouth formation (coarse grained turbiditic sandstone and subordinate mudstone); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations)



MONDAY 13TH SEPTEMBER: FIFTH SITE Dyffryn Ardudwy. Rhinog SSSI, Moelyblithcwm

High Level

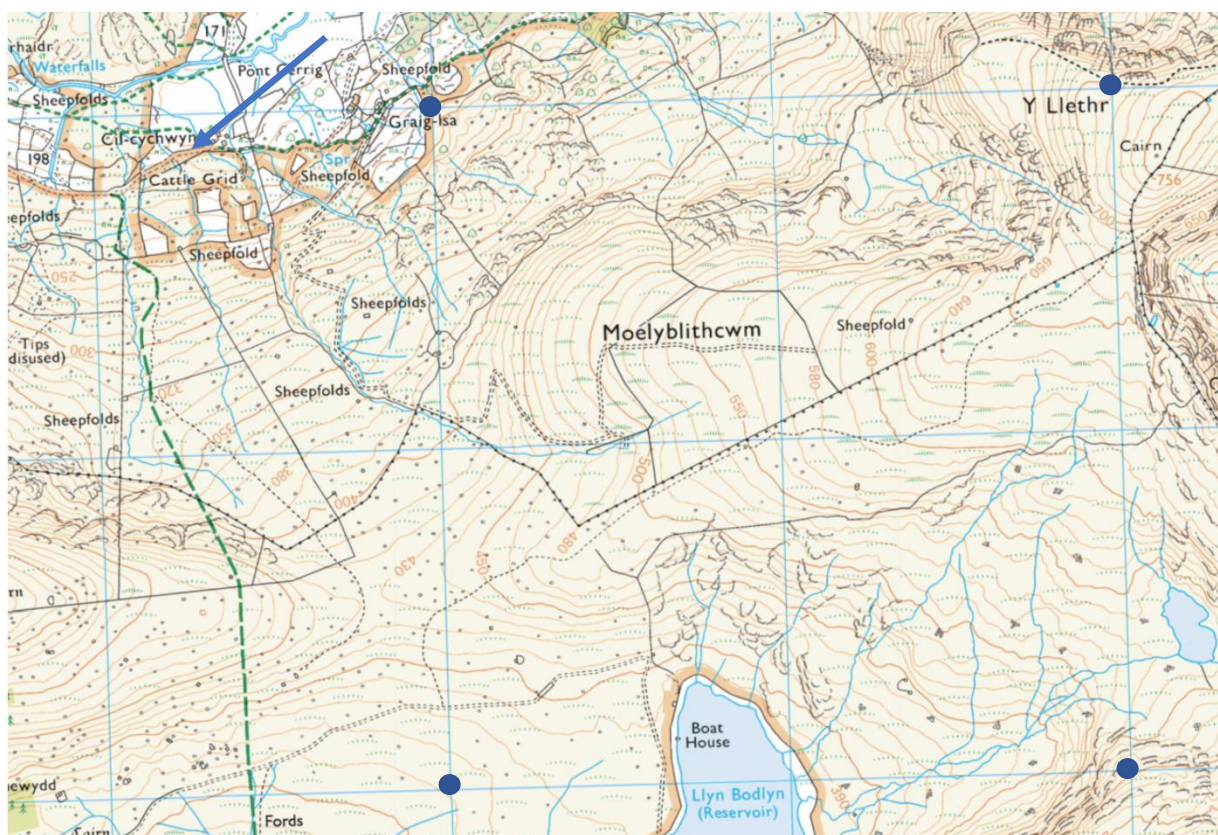
SH62M. (SH6425, SH6525, SH6424, SH6524).

Rhinog SAC/ SSSI form part of this tetrad. Llyn Bodlyn is a sizeable reservoir, originally damned in 1894 to supply water to Barmouth. There are four records from 1965 in SH6425 including *Metzgeria leptoneura*, *Odontoschisma denudatum* and *Braunia imberbis* (M. O. Hill).

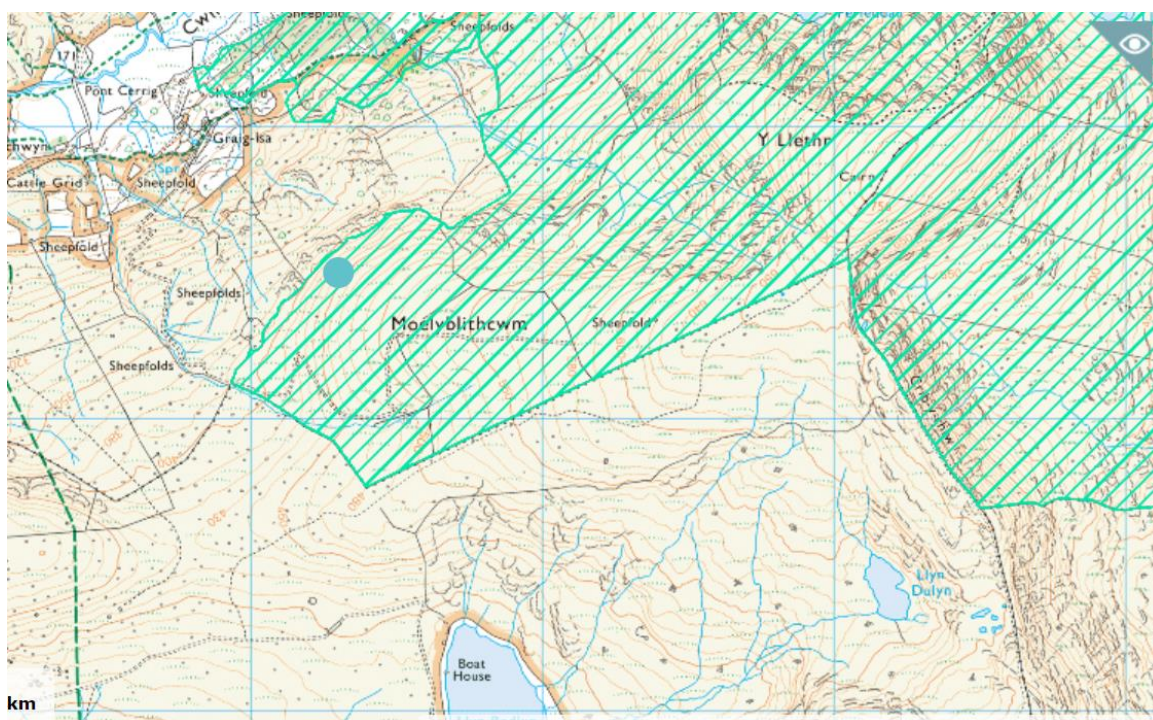
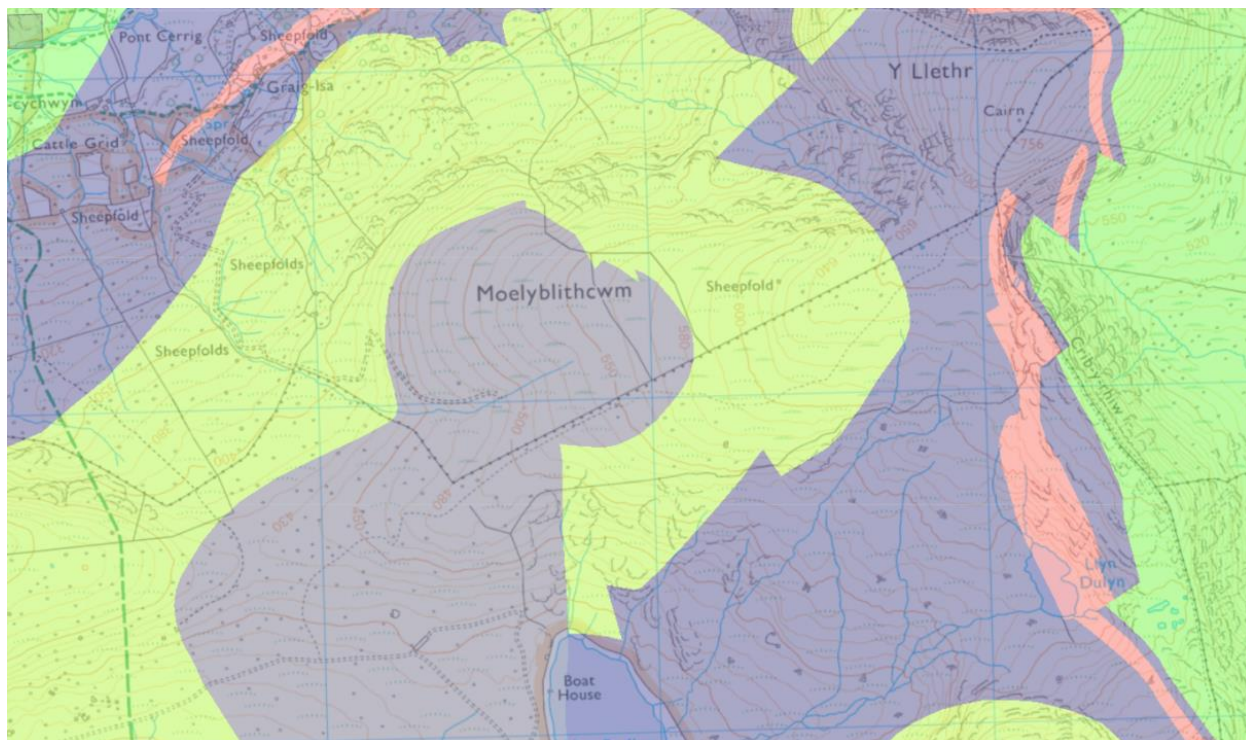
Getting there: There is a small car parking space at SH63292589 created by the local farmer on a verge costing £3 (donation to air ambulance) which may be more convenient for accessing this tetrad. You'll need to walk the first 1.5km into the tetrad. Turn right, after Dyffryn Ardudwy and follow the minor road at Coed Ystumgworm and follow to almost the bitter end. Alternatively, we can park at the reservoir but its limited to 3/4 cars. Drive towards Dyffryn Ardudwy going north from Barmouth. Turn right onto the long straight road of Ffordd Gors towards Cors y Gedol Hall. Look for a pair of stone pillars topped with stone balls just past the bridge over the river. There is limited parking at CP just E of Cors y Gedol, small carpark with honesty box (SH602231, nearest postcode: LL43 2AT). Last year was £1. The track leading to the reservoir carries on from this minor road and is most suitable for a 4x4, but having walked up the track, I think you could take a car as long as its not too low slung. There are pot holes at intervals but no more than about 7cm in depth. With careful driving- it may be possible. Otherwise it's a 4km walk to the junction of the footpath at SH63982424 which leads straight into the tetrad.

Permission: Largely open access. Mr Bailey, Cors y Gedol. 01341 247231 and 01341 241700

Safety: BBS Risk Assessment



Geological Map. **Grey** = Gamlan Formation (pyritic mudstones and coarse-grained sandstones with some manganiferous mudstone); **dark grey** = Haffoty Formation (manganiferous mudstones); **yellow** = Barmouth formation (coarse grained turbiditic sandstone and subordinate mudstone); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **pink** = grey, thin-bedded tubiditic sandstones.



TUESDAY 14TH SEPTEMBER. FIRST SITE.**Low Level****SH60I. (SH6206, SH6207, SH6306, SH6307) Foel Tyr Gawen**

No records no designations. Mr Roberts farms some of this land and we have his permission to park at SH643076, his farm Dysefin Farm which is just outside the tetrad. We can explore away from public footpaths. The records for the adjacent (easterly) tetrad SH60N are almost wholly for Birds' Rock. So additions would be useful.

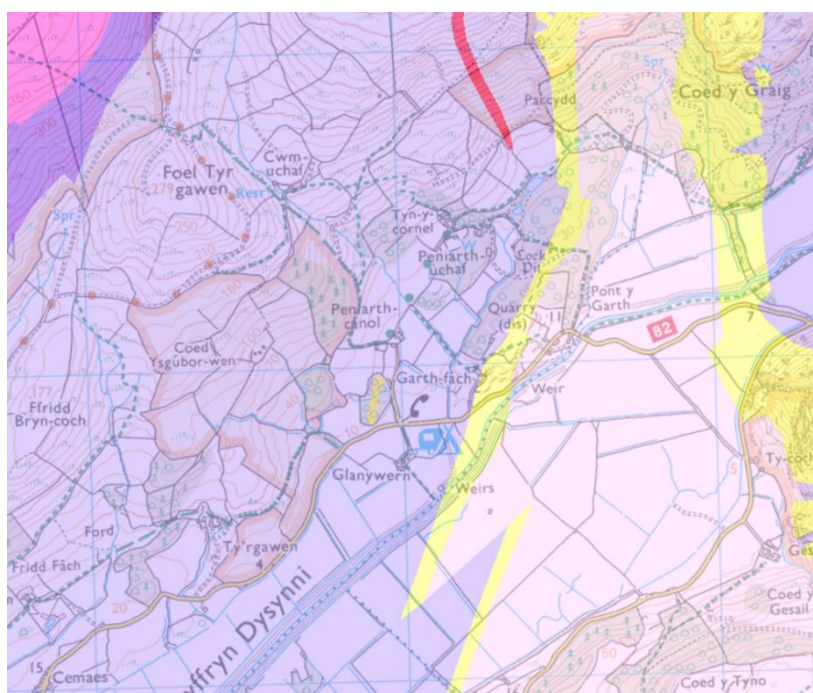
Getting there: SatNav - LL36 9TH

Permission: R.J Roberts & Son. Dysefin Farm, Llanfihangel Y Pennant, Tywyn, LL36 9TH 01654 782247

Safety: BBS Risk Assessment; we have been asked to stay away from cows with calves (common sense)



Geological Map: **Pale purple:** Ty'r Gawen Mudstone Formation *mudstone*; **yellow:** Craig Cau Formation *felsic and tuff.*; **pale purple:** Ceiswyn Formation *mustone and siltstone*; **pink:** Ty'r Gawen Mudstone



TUESDAY 14TH SEPTEMBER. SECOND SITE.

YOU WILL NEED THE FORESTRY KEY. You will need to co-ordinate with the group recording at SH63Q and SH62T.

Low level**SH62Z. (SH6828, SH6928, SH6829, SH6929). Afon Crawcwellt**

No designation, 1 record of *Plagiothecium curvifolium* at Craig-ddu-isaf (SH681299), Trawsfynydd. Over half of the plantation in this area has been clear felled giving a variety of habitat. There are a number of places where Afon Crawcwellt can be crossed and there is a concrete lined conduit or leat which may be of some interest.

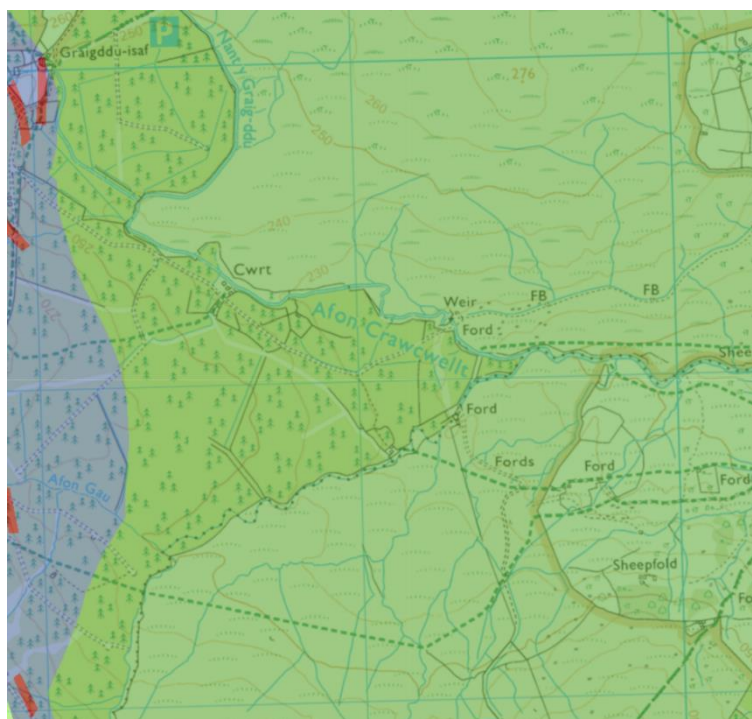
Getting there: Head north for Bonaber (LL41 4UR) along the A470. Turn left at the minor road at SH713306 before you get to Bonaber. Follow the minor road into the forest. Drive past the official carpark and past Graigddu-isaf part of which is a 17th century longhouse where you can stay alongside a couple of donkeys. Follow the road past Graigddu-isaf, then keep left (going south) at each fork should bring you to within the tetrad. These tracks are suitable for all vehicles but please be aware that things might change after heavy rain. Park where convenient.

Permission: NRW Forestry

Safety: BBS Risk Assessment



Geological map: dark and other shades of grey - include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** (corner of north western monad – dolerite and gabbro).



TUESDAY 14TH SEPTEMBER. THIRD SITE.

YOU WILL NEED THE FORESTRY KEY. You will need to co-ordinate with the group recording at SH63Z and SH62T.

High level

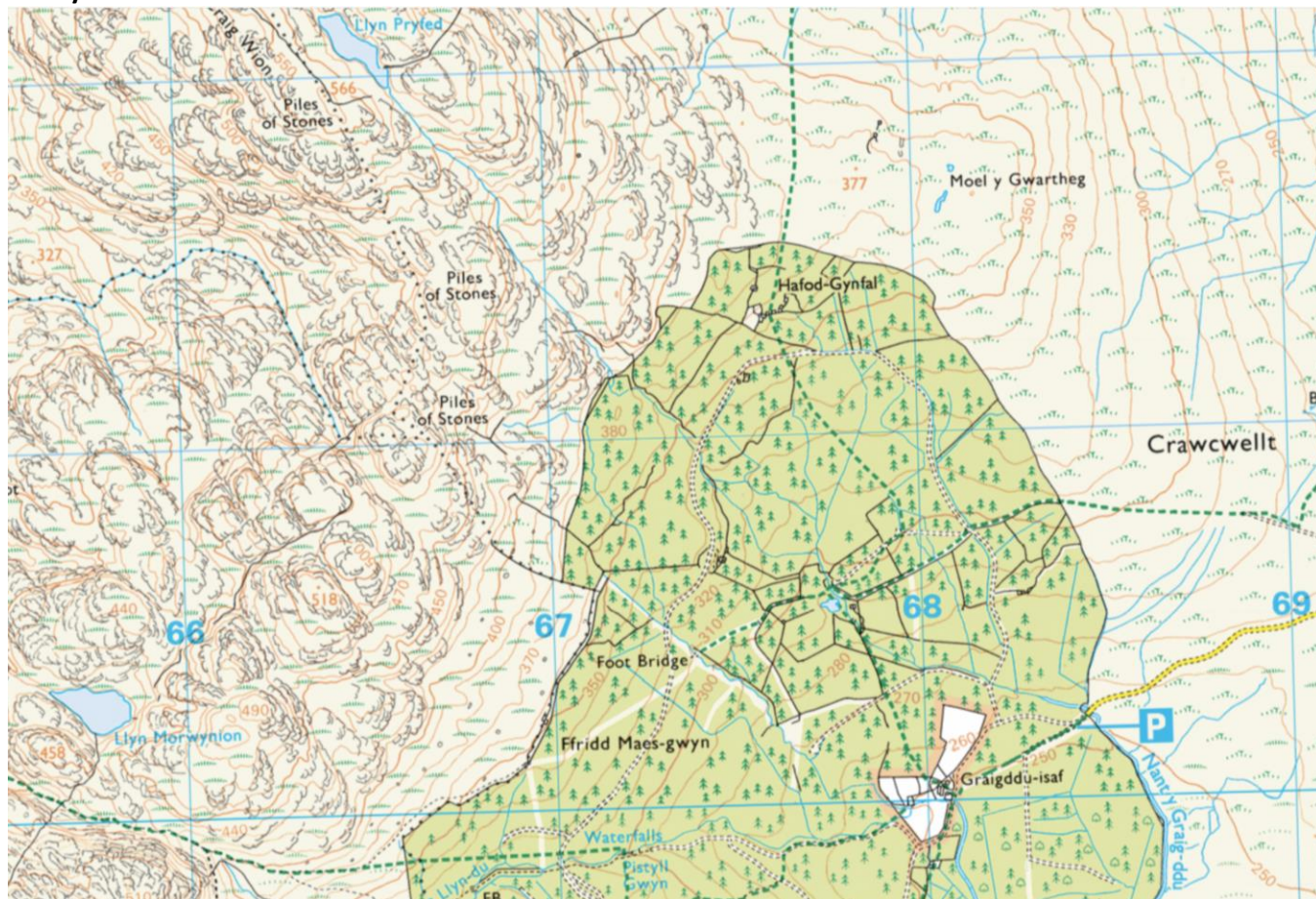
SH63Q (SH6631, SH6731, SH6630, SH6730). Rhinog SSSI and NNR

SH6630, SH6631 and part of SH6731 are part of Rhinog SSSI and NNR

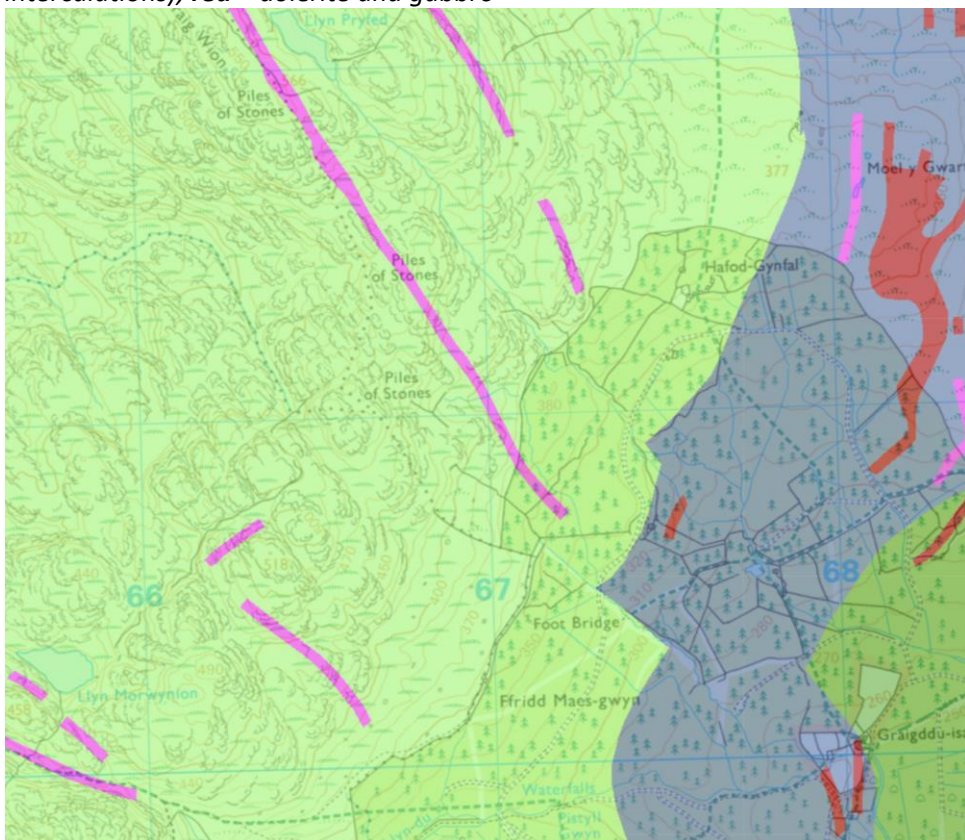
Getting there: Head north for Bonaber (LL41 4UR) along the A470. Turn left at the minor road at SH713306 before you get to Bonaber. Follow the minor road into the forest. Drive past the official carpark and turn right along the forest track at SH68203020. These tracks are suitable for all vehicles but please be aware that things might change after heavy rain. At the next fork keep right and follow the track around the top of the forest and park where convenient. There is parking at SH674306, near a disused quarry. Use the footpaths to exit the forest onto the hill. This will not be easy going. However, there are some microgabbro intrusions (see below) which may be of interest.

Permission: NRW Forestry

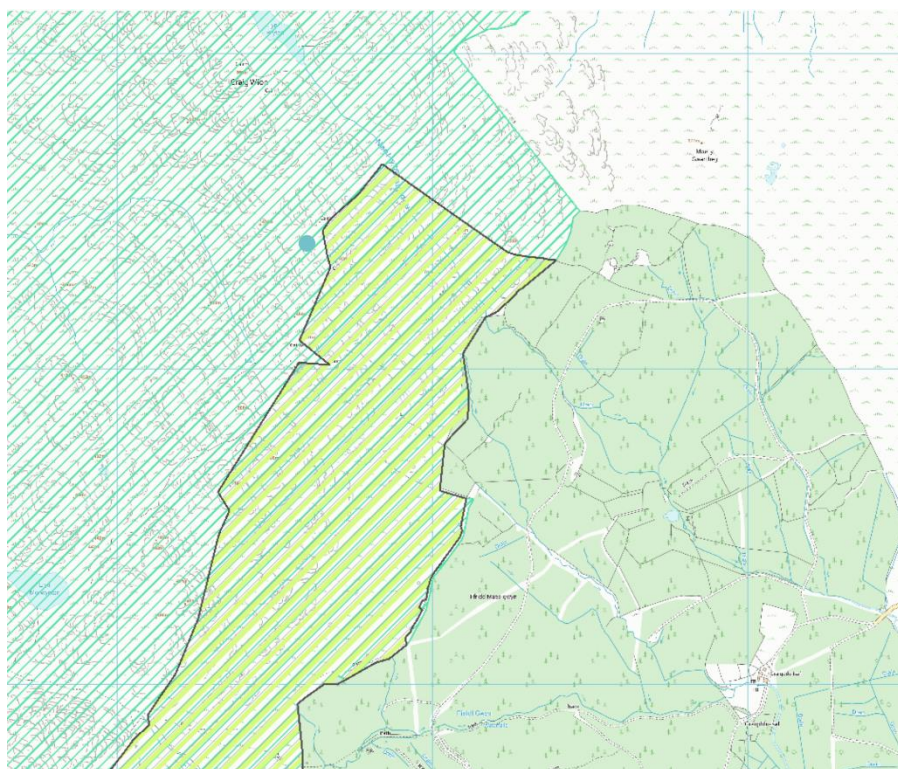
Safety: BBS Risk Assessment



Geological map: **dark and other shades of grey** = include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **green** = Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** = dolerite and gabbro



Rhinog SSSI and NNR



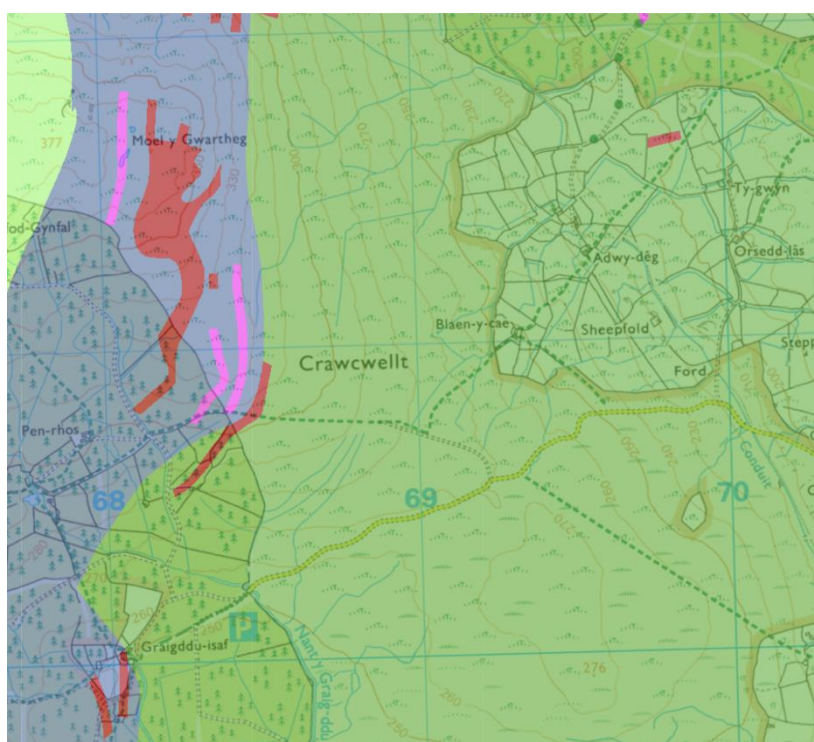
TUESDAY 14TH SEPTEMBER. FOURTH SITE.**Low level but harder going on the moor.****SH63V. (SH6830, SH6930, SH6831, SH6931) Trawsfynydd**

No designation, no records. Paths across the moor are poorly defined and quite hard going. To get to Moel y Gwartheg (SH681316), follow the track through the forest until you reach the path then onto the moor. At Moel y Gwartheg you will find the remains of a slate quarry with the possible remains of a keyhole shelter at about SH67903180 (just outside this tetrad but don't let that stop you from recording), which could be used as a lunch stop. There may be some microgabbro or gabbro outcrops near Moel y Gwartheg (see geological map below) but it is hard going from the track. It is also very wet going in places. The concrete lined conduit or leat running through the eastern monads may be of some interest.

Getting there: Head north for Bonaber (LL41 4UR) along the A470. Turn left at the minor road at SH713306 before you get to Bonaber. Follow the minor road and park at SH69223056 at the junction of the minor road and track or at SH68393018 in the clear felled part of the plantation – but still in the tetrad.

Permission: NRW Forestry**Safety:** BBS Risk Assessment

Geological map: dark and other shades of grey = include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); green = Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); red = dolerite and gabbro



TUESDAY 14TH SEPTEMBER. FIFTH SITE.

YOU WILL NEED THE FORESTRY KEY. You will need to co-ordinate with the group looking at SH63Q, SH63Z High Level

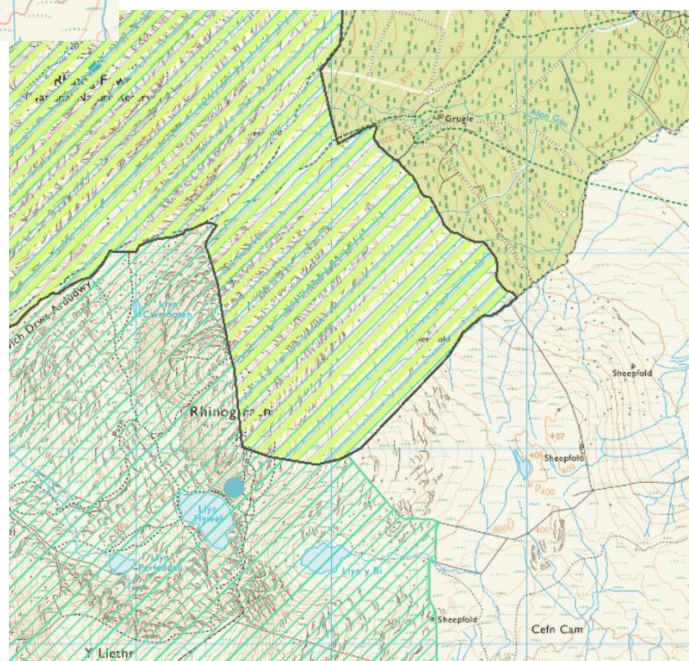
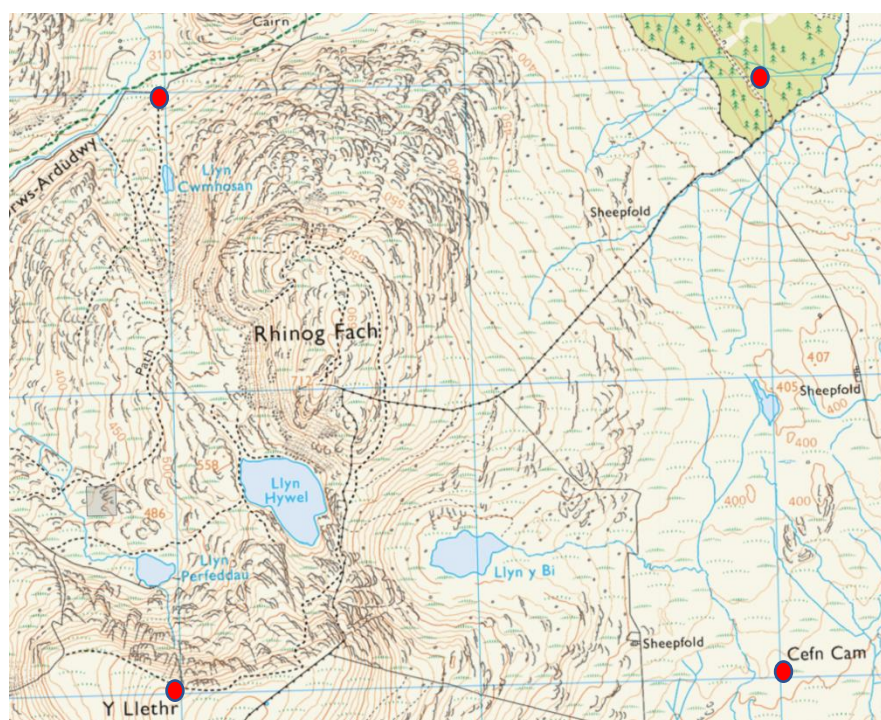
SH62T. (SH6627, SH6727, SH6626, SH6726) Rhinog Fach. Rhinog SSSI and NNR

All part of Rhinog SSSI and northerly monads part of Rhinog NNR. This will not be easy going. However, there some microgabbro intrusions (see below) which may be of interest. *Grimmia ramondii* was found on rocks by Llyn Cwmhosan by Sam Bosanquet.

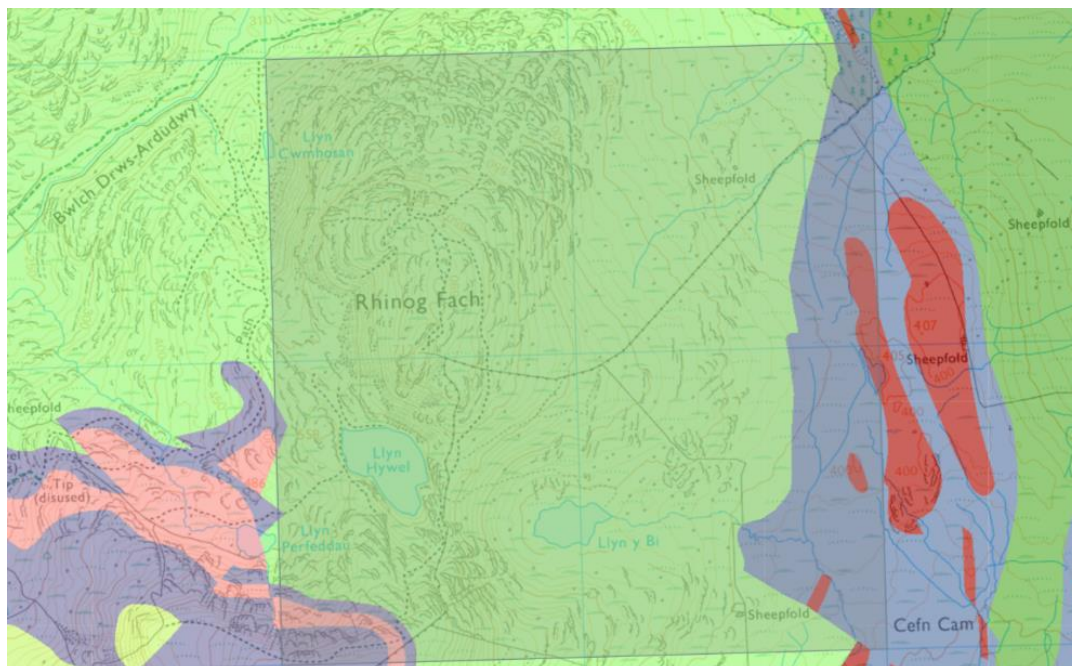
Getting there: Head north for Bonaber (LL41 4UR) along the A470. Turn left at the minor road at SH713306 before you get to Bonaber. Follow the minor road into the forest. Drive past the official carpark and turn right along the forest track at SH68203020. These tracks are suitable for all vehicles but please be aware that things might change after heavy rain. At the next fork keep right and follow the track all the way around the top of the forest and down the west side to park near Grugle, park where convenient. Use the footpaths to exit the forest onto the hill. A suggested route is below. There is about a 2km walk into the tetrad.

Permission: NRW Forestry and Open Access

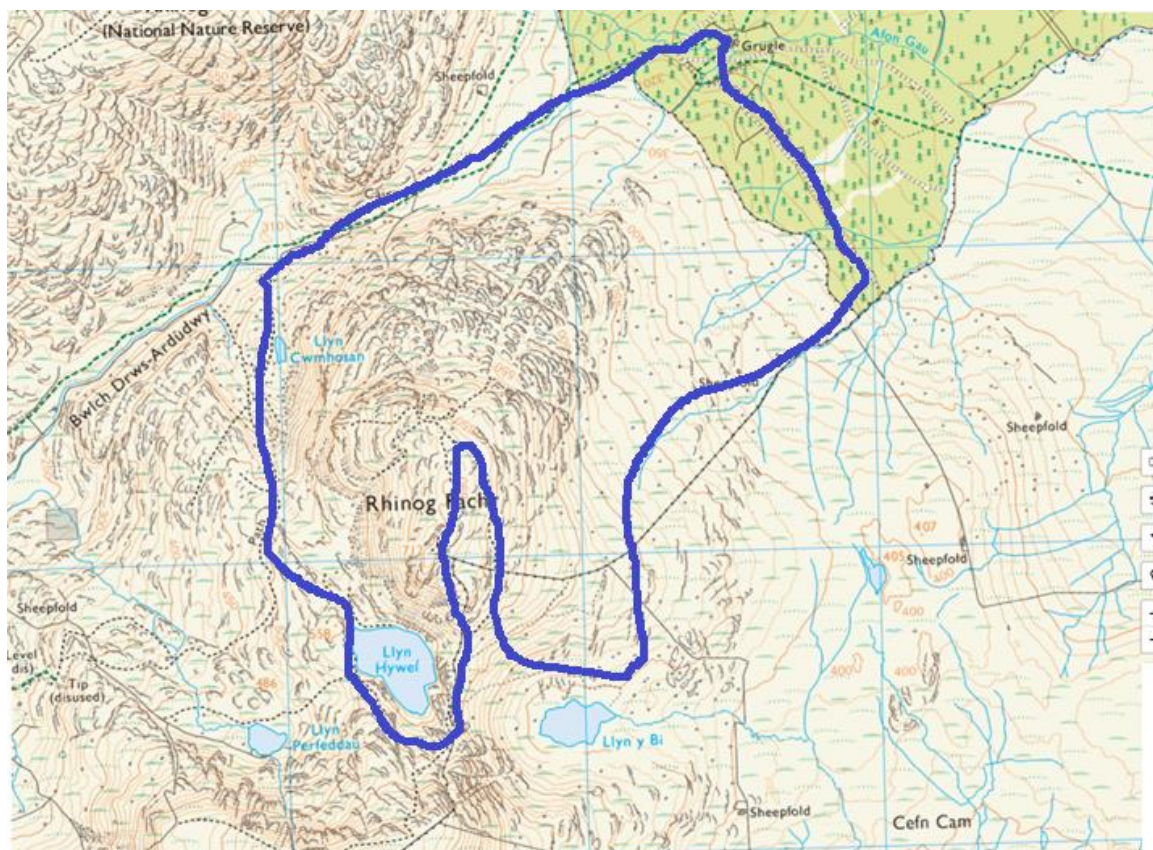
Safety: BBS Risk Assessment but some very steep bouldering involved.



Geological map: dark grey-blue - include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** – dolerite and gabbro; **dark grey and pink** = Haffoty Formation (manganiferous mudstones).



The following is only a suggested route.



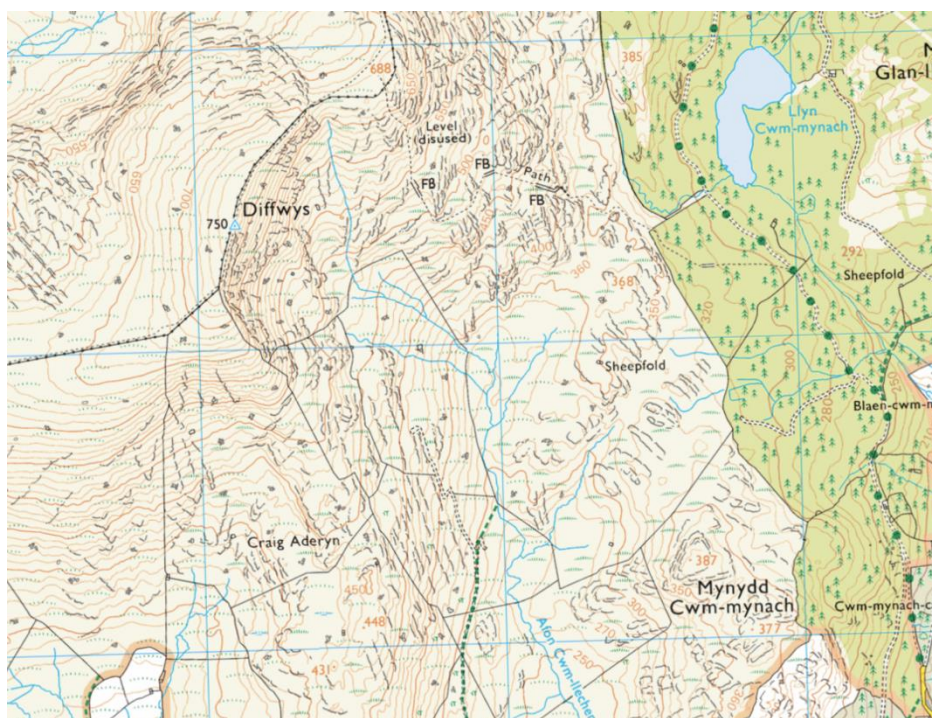
WEDNESDAY 15TH SEPTEMBER. FIRST SITE**High Level****SH62R. (SH6622, SH6623, SH6722, SH6723) Diffwys**

This woodland belongs to the Woodland Trust. Use the miners track (an amazing bit of archaeological history) as access to the disused manganese mine levels and up to Diffwys. Peter Benoit found *Bartramia ithyphylla* on Diffwys in 1965.

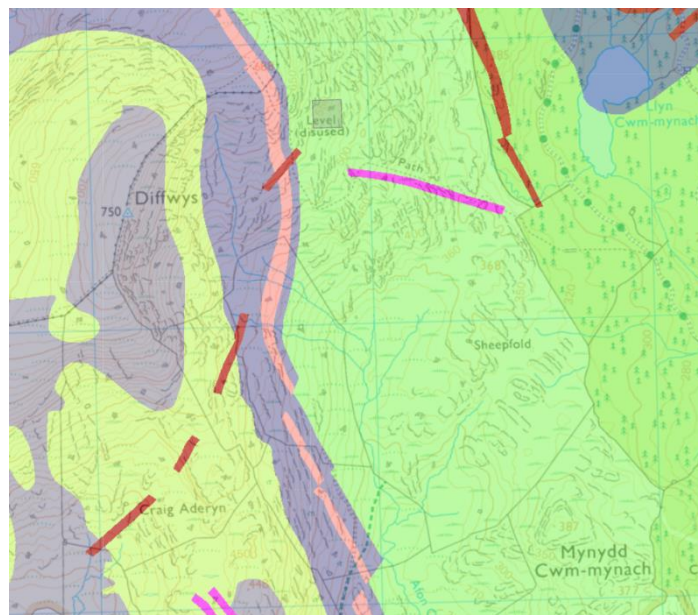
Getting there: From Plas Caerdeon, turn left onto the A496 towards Dolgellau after the village of Bontddu turn left at the yellow road to Taicyndaeaf. Follow this yellow road and it will turn into a track. There is potential parking in the woodland at SH6788823325 (1 car), SH6804923118 (2/3 cars) and there may be others before the miners track at SH679232. The track through the woodland is open (no locked gates) and we have permission to use it. However, some of the larch in the woodland was being felled due to *Phytophthora* infection in March 2020. As a result, the track is rather chewed up, it can be accessed by car, but a 4x4 would be better.

Permission: Open Access, Woodland Trust.

Safety: BBS Risk Assessment, plus beware of possible logging operations.



Geological Map: **dark grey** – Haffoty Formation (grey, thin-bedded turbiditic sandstones with manganiferous mudstones); **grey** = Gamlan Formation (pyritic mudstones and coarse-grained sandstones with some manganiferous mudstone); **green** = Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** = dolerite and gabbro; **pink** = microgabbro intrusions (rich in iron and magnesium and poor in silica). It occurs as small intrusions called ‘dykes’ or ‘sills’ which are sheet-like and cut through the surrounding rocks. It follows the miners tramway.



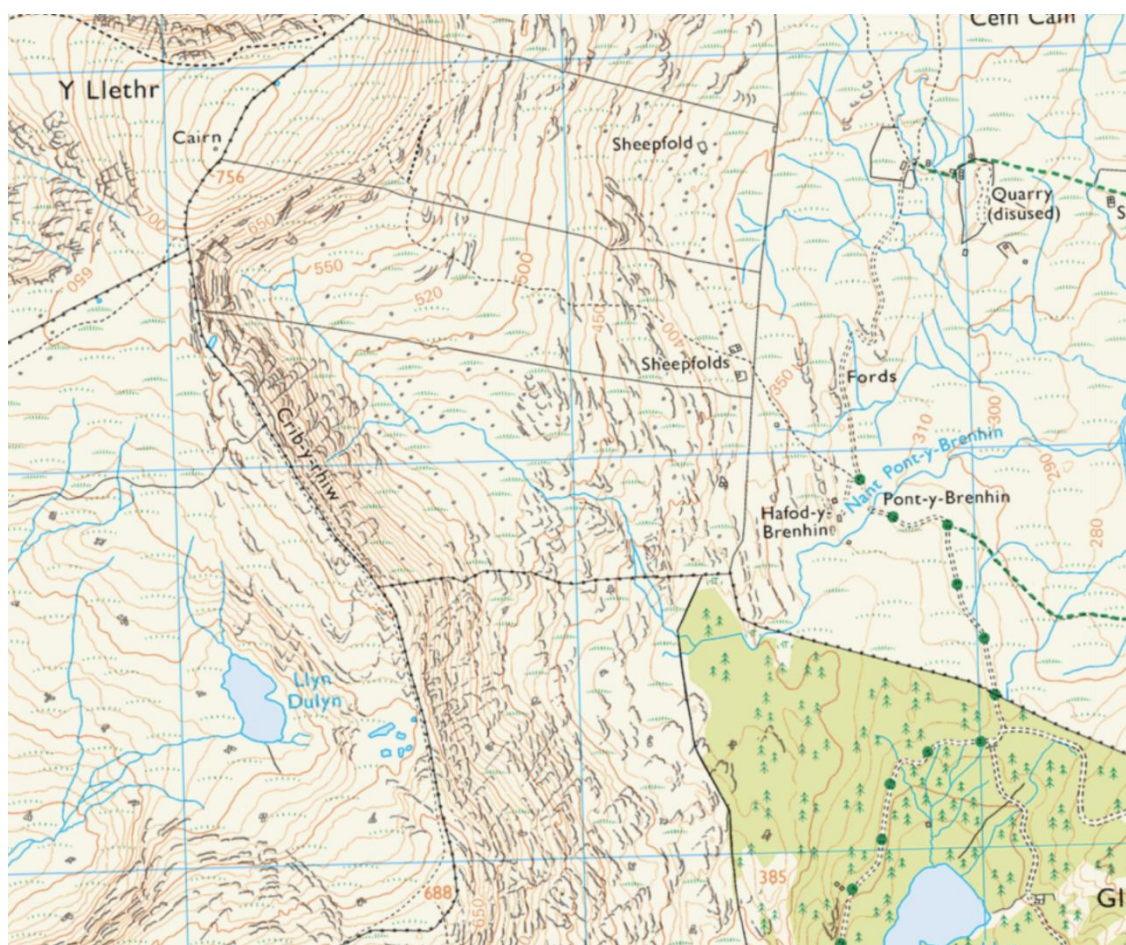
WEDNESDAY 15TH SEPTEMBER. SECOND SITE**High Level****SH62S. (SH6625, SH6725, SH6624, SH6724) Rhinog SSSI East of Y Llethr**

Part of Rhinog SSSI East of Y Llethr. The woodland in the south of the tetrad belongs to the Woodland Trust. SH6625 is owned by the National Trust. There are two records only for this tetrad. There are well defined paths crisscrossing the tetrad. Park in the forest and walk north through the forest onto the moor. There are various sheepfolds and a bridge. The quarry is mainly in SH6825, which also has only 1 record. If road conditions are poor, there are no records for SH6823, which is largely forest. You may be able to drive to the north end of the forest.

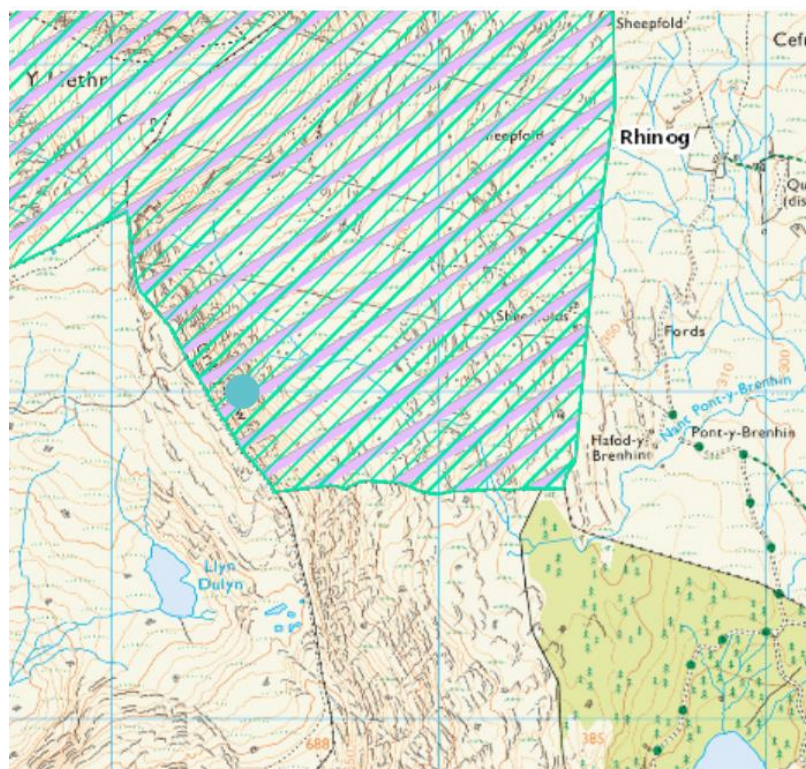
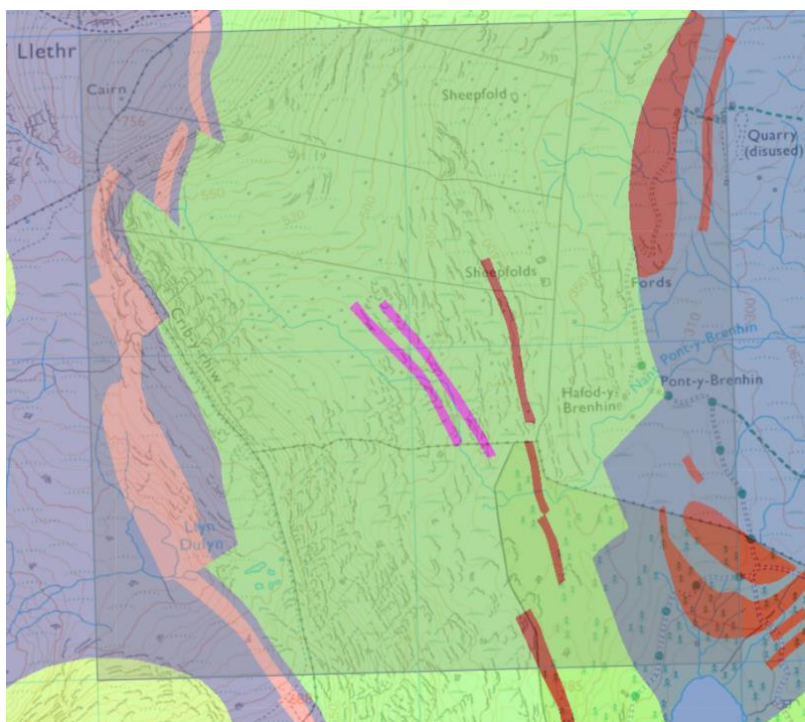
Getting there: From Plas Caerdeon, turn left onto the A496 towards Dolgellau after the village of Bontddu turn left at the yellow road to Taicynhaeaf. Follow this yellow road and it will turn into a track. There is potential parking in the woodland at SH6788823325 (1 car), SH6804923118 (2/3 cars) and there may be others before the miners track at SH679232. Park where possible and walk into tetrad. The track through the woodland is open (no locked gates) and we have permission to use it. However, some of the larch in the woodland was being felled due to *Phytophthora* infection in March 2020. As a result, the track is rather chewed up, it can be accessed by car, but a 4x4 would be better.

Permission: Open Access, Woodland Trust, National Trust

Safety: BBS Risk Assessment, plus beware of possible logging operations.



Geological Map: dark grey -blue - include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** – dolerite and gabbro; **dark grey and pink** = Haffoty Formation (manganiferous mudstones).

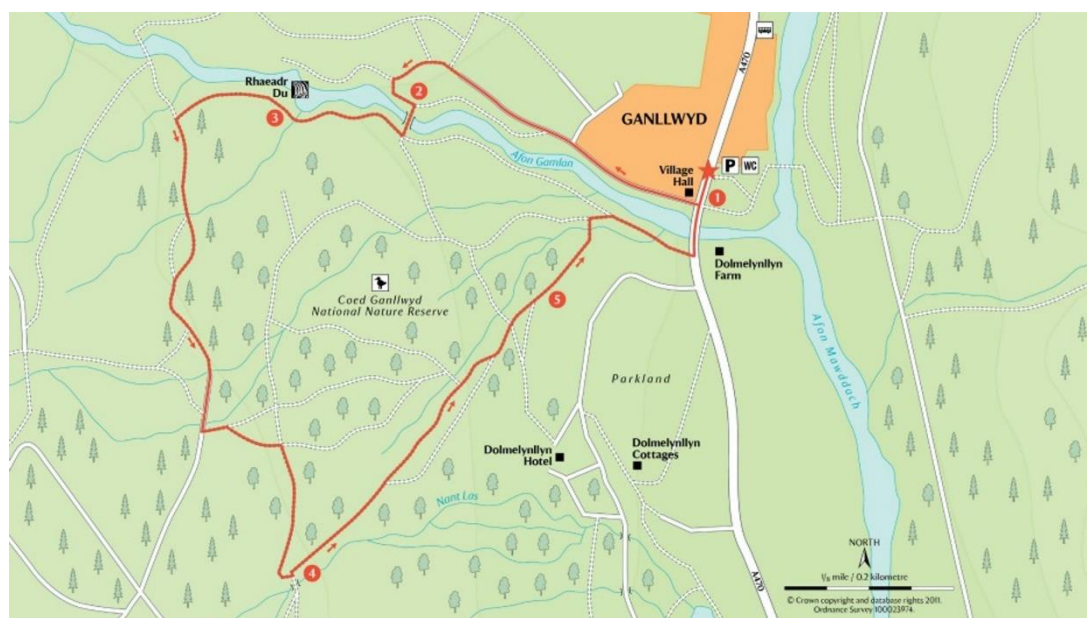
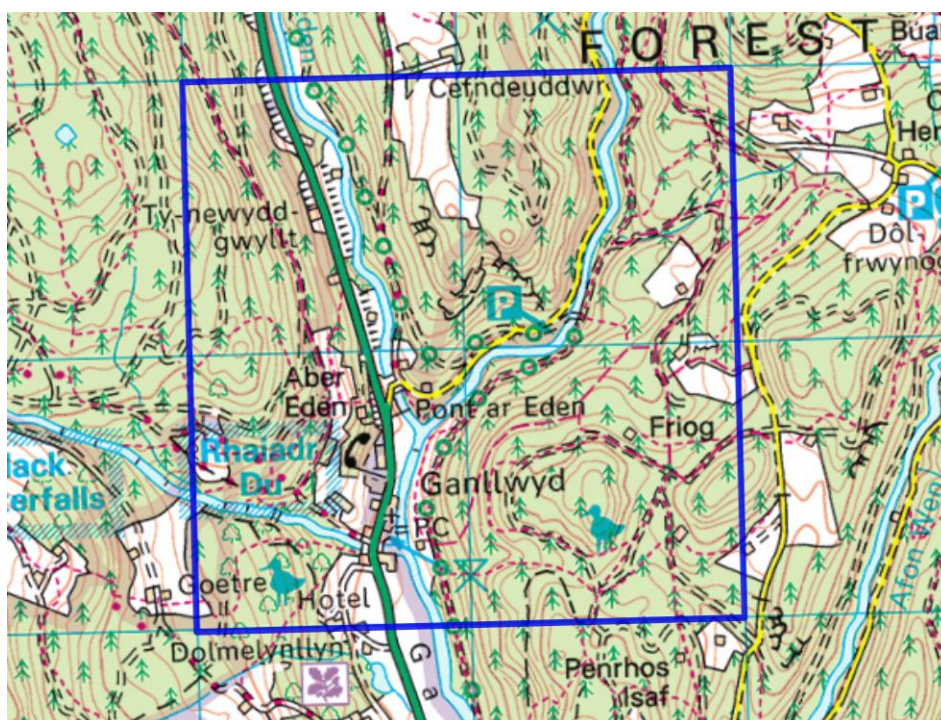


WEDNESDAY 15TH SEPTEMBER. THIRD SITE**Low level****SH72H. SH7224 and SH7223. Followed by SH72B, SH7022, SH7023, SH7122, SH7123 Coed Ganllwyd NNR**

Coed Ganllwyd NNR SH7224 and SH7223 (SH72H). A tour of Atlantic oak woodland with Sam Bosanquet. Followed by SH72M (about 48 records in SH7425) or SH72N (11 records in SH7526) in the pm – Coed y Brenin Nature Reserve. The NNR is part of the sessile oak woodlands of southern Snowdonia which form one of the most important areas for woodland conservation in Europe. Coed Ganllwyd (about 184ha) is of European importance and as such forms part of the Meirionnydd Oakwoods and Bat sites Special Area of Conservation (SAC). Approximately 155 species of bryophytes have been found within SH7224 including rarities such as *Anastrophyllum hellerianum*, *Cololejeunea microscopia* (was *Aphanolejeunea microscopica*), *Bazzania tricrenata*, *Blepharostoma trichophyllum*, *Cephalozia catenulate*, *Dichodontium flavescens*, *Drepanolejeunea hamatifolia*, *Hylocomiastrum umbratum*, *Oxystegus daldinianus*, *Pseudomarsupidium decipiens* (was *Adelanthus decipiens*), *Sematophyllum demissum* and *Solenostoma hyalinum*.

Getting there: Park initially at Ganllwyd car park, grid ref: SH727243 (free, donation to National Trust), has PC. Please meet Sam Bosanquet here at 09.30. Parking at SH748256 for Coed y Brenin Nature Reserve, to be agreed.

Permission: Open Access, National Trust



THURSDAY 16TH SEPTEMBER. FIRST SITE

Mid Level

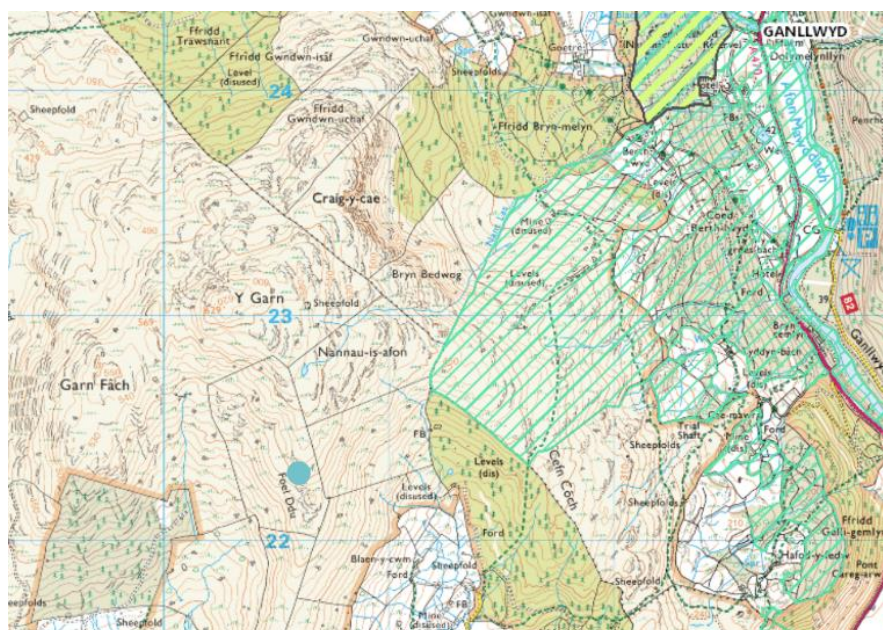
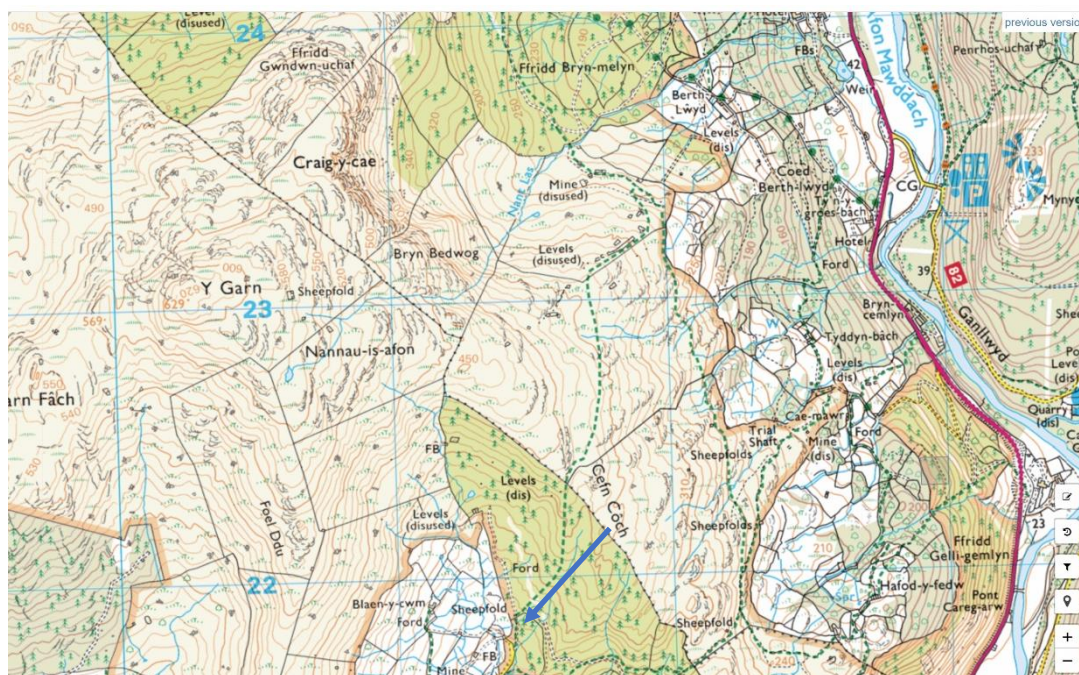
SH72B. SH7022, SH7023, SH7122, SH7123. Llanelltyd

Part of SH7122 and SH7123 Coed Ganllwyd SSSI with only 8 records for the SSSI

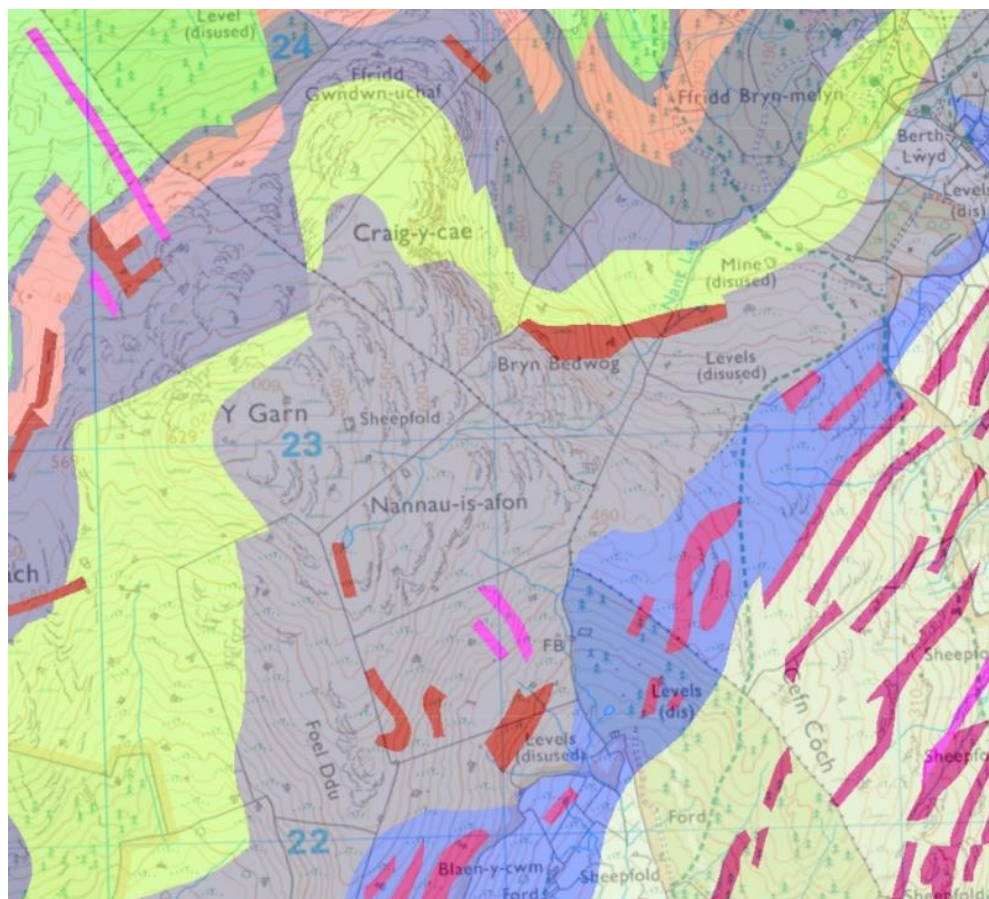
Getting there: Park initially at Ganllwyd car park, grid ref: SH727243 (free, donation to National Trust), has PC or possible parking at SH71422143 and SH71402174 at the beginning of the footpath into tetrad.

Permission: Open Access, National Trust, NRW Forestry

Safety: BBS Risk Assessment



Geological Map: **dark grey-blue** - include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** – dolerite and gabbro; **dark grey and pink** = Haffoty Formation (manganiferous mudstones).



THURSDAY 16TH SEPTEMBER. SECOND SITE

Low Level

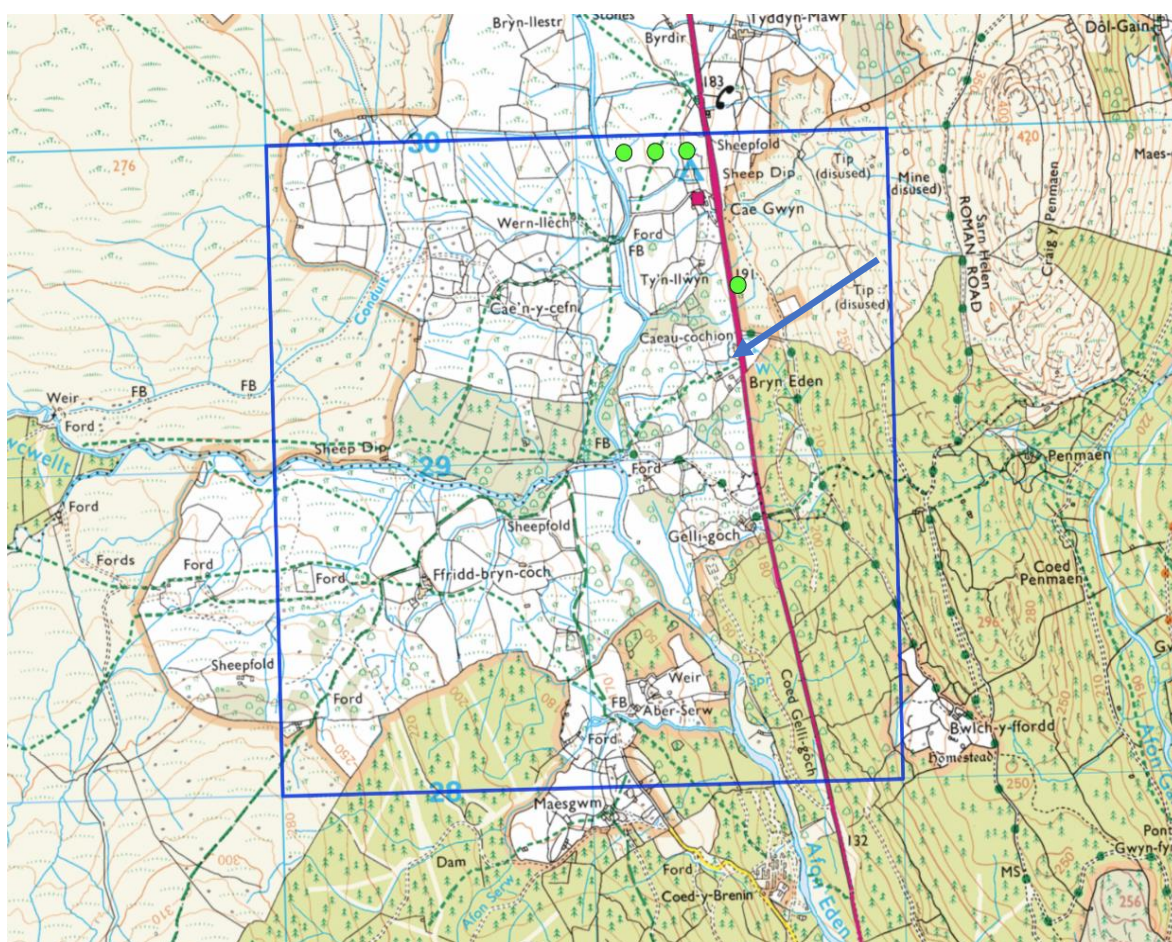
SH72E. (SH7028, SH7029, SH7128, SH7129), Gelli-goch.

Includes part of Afon Eden-Cors Goch Ttrwsfynydd SSSI. At SH701294 there is a Hut Circle Settlement. The monument consists of a dispersed hut circle settlement, probably dating to the Iron Age or Romano-British period (c. 800 BC - AD 400). Look out for *Rhytidiadelphus subpinnatus* which has been found on the Afon Eden. 25 records in SH7129. The core management plan of 2008 states that Afon Eden – Cors Goch Trawsfynydd SAC has raised bogs, associated with blanket bog. The hydrology of the two raised bogs and their associated areas of blanket bog is intact and as a result there is active accumulation of *Sphagnum* moss peat. The bogs' surface is a mosaic of hummocks and wetter hollows with little encroachment of scrub and where purple moor-grass occurs. It is important for Floating Water-Plantain, Atlantic Salmon, Freshwater Pearl Mussel and Otters.

Getting there: There is a range of parking opportunities but the layby at SH71502936 will allow access to the east part of this tetrad which would lead to a round walk taking in the rest of the tetrad. |

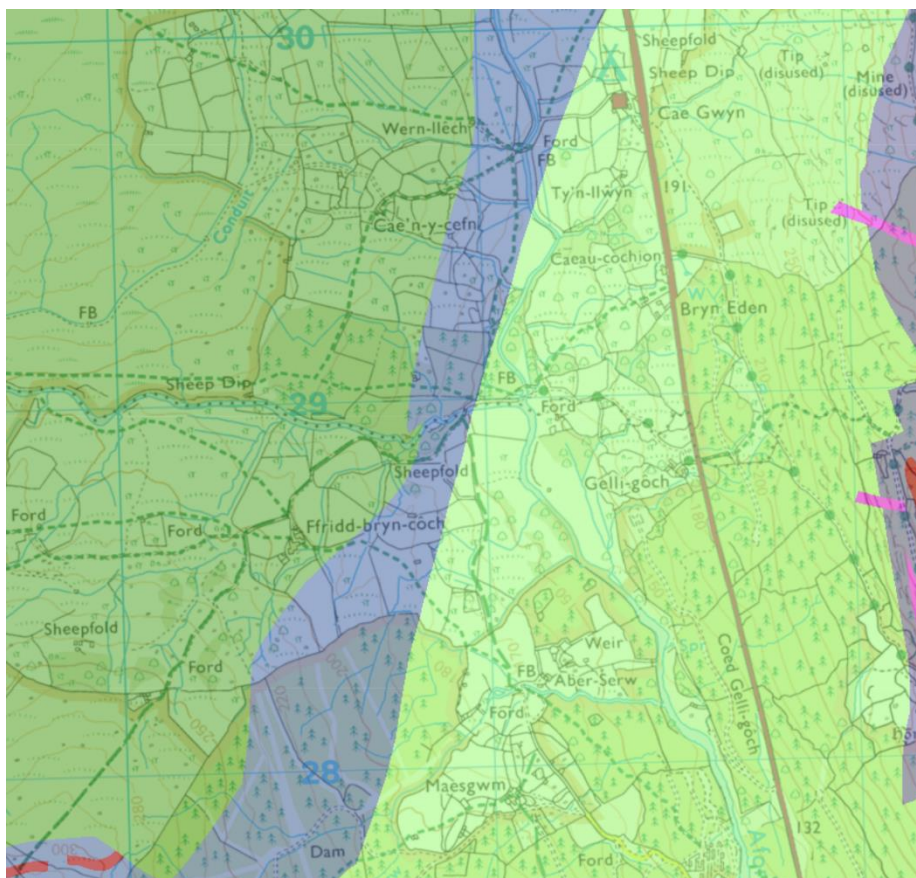
Permission: Open Access, NRW Forestry

Safety: BBS Risk Assessment





Geological Map: **dark grey-blue** - include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **dark green** = Dolwen Formation (sandstone and siltstone); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations);



THURSDAY 16TH SEPTEMBER. THIRD SITE

Low Level

SH72D. (SH7026, SH7027, SH7126, SH7127) Gelli-goch.

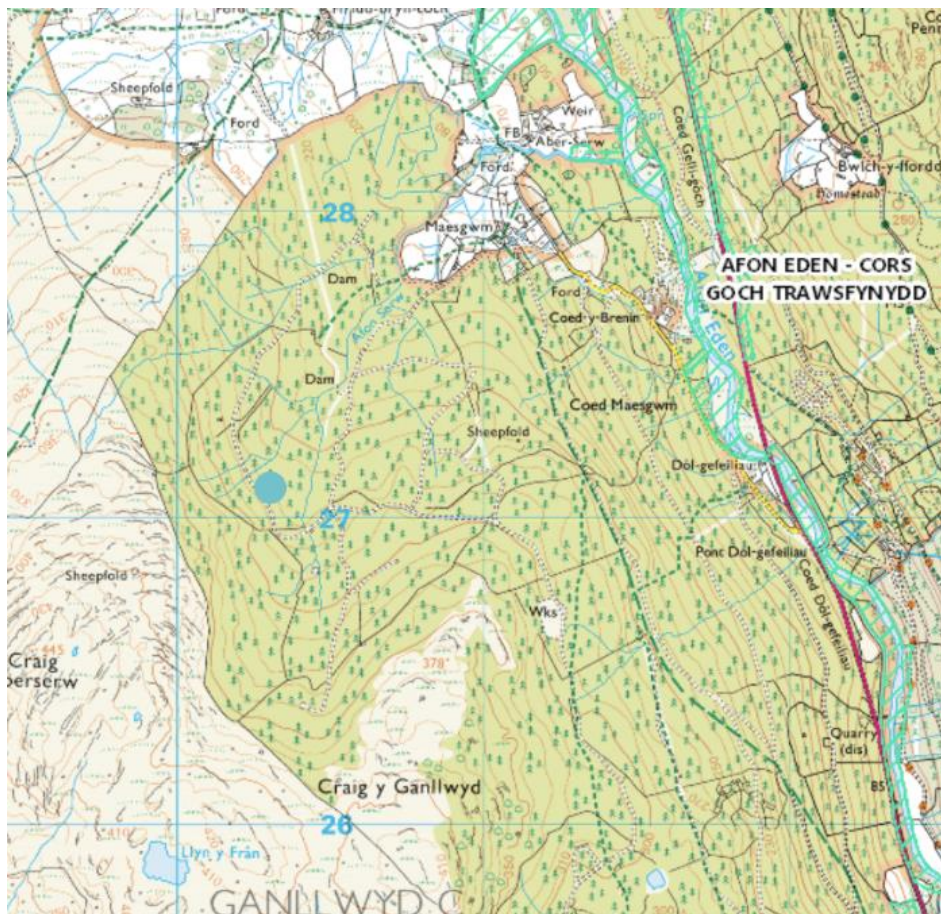
SH7127 has 5 pre 2000 records, the other monads have none. This tetrd is primarily forestry but it also includes part of Afon Eden-Cors Goch Ttrwsfynydd SSSI. The core management plan of 2008 states that Afon Eden – Cors Goch Trawsfynydd SAC has raised bogs, associated with blanket bog. The hydrology of the two raised bogs and their associated areas of blanket bog is intact and as a result there is active accumulation of *Sphagnum* moss peat. The bogs' surface is a mosaic of hummocks and wetter hollows with little encroachment of scrub and where purple moor-grass occurs. It is important for Floating Water-Plantain, Atlantic Salmon, Freshwater Pearl Mussel and Otters. Craig y Ganllwyd in the south-west monad is the 7799th highest peak in the British Isles and the 878th tallest in Wales. If you are a hill bagger it's 14411th on your list. There is a cairn dating back to the Bronze Age. Look out for *Rhytidiadelphus subpinnatus* which has been found on the Afon Eden.

Getting there: Take the minor road off the A470 towards Maeagwm LL40 2LA opposite the turning to Coed-y-Brenin Forest Park. Park at SH71812716 (room for about 2 cars) in the forest or at SH71612756 room for about 3 cars.

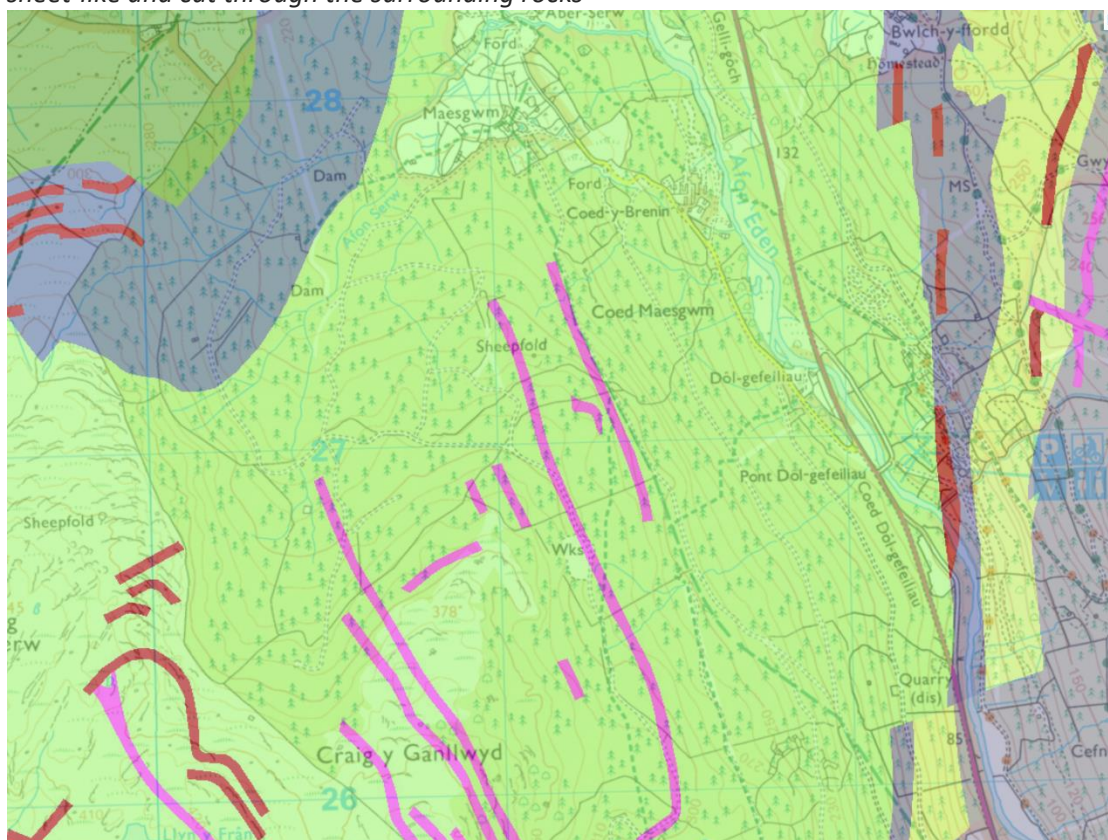
Permission: Open Access, NRW Forestry

Safety: BBS Risk Assessment





Geological Map: **dark grey-blue** - include Llanbedr formation (and others) (cleaved purple, green or bluish-grey mudstone with some siltstone and sandstone beds); **dark green** = Dolwen Formation (sandstone and siltstone); **green**, Rhinog formation (grey to bluish grey, thick bedded turbiditic sandstones, conglomerates and laminated sandstones, with thin siltstone and mudstones intercalations); **red** – dolerite and gabbro; **pink** = microgabbro intrusions (rich in iron and magnesium and poor in silica). It occurs as small intrusions called 'dykes' or 'sills' which are sheet-like and cut through the surrounding rocks



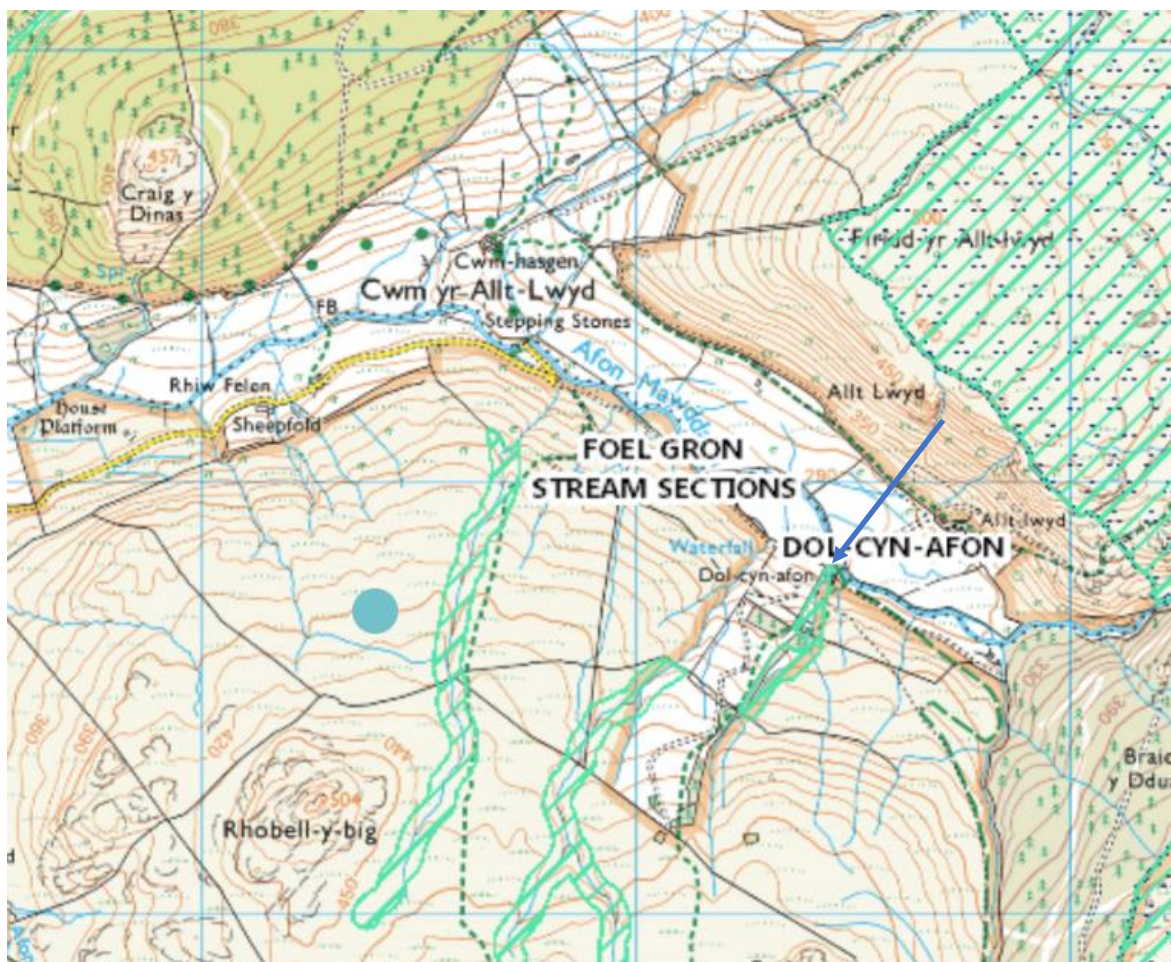
FRIDAY 17TH SEPTEMBER. FIRST SITE**Low and High Level****SH72Z. (SH7828, SH7829, SH7928, SH7929). Cwm yr Allt-Lwyd**

This includes Mineint-Arenig-Dduallt SSSI (SH7929), Foel Gron Stream Sections (SH78572863) and Dol-cyn-afon (SH79352858). There are 20 records from SH7829 pre-2000.

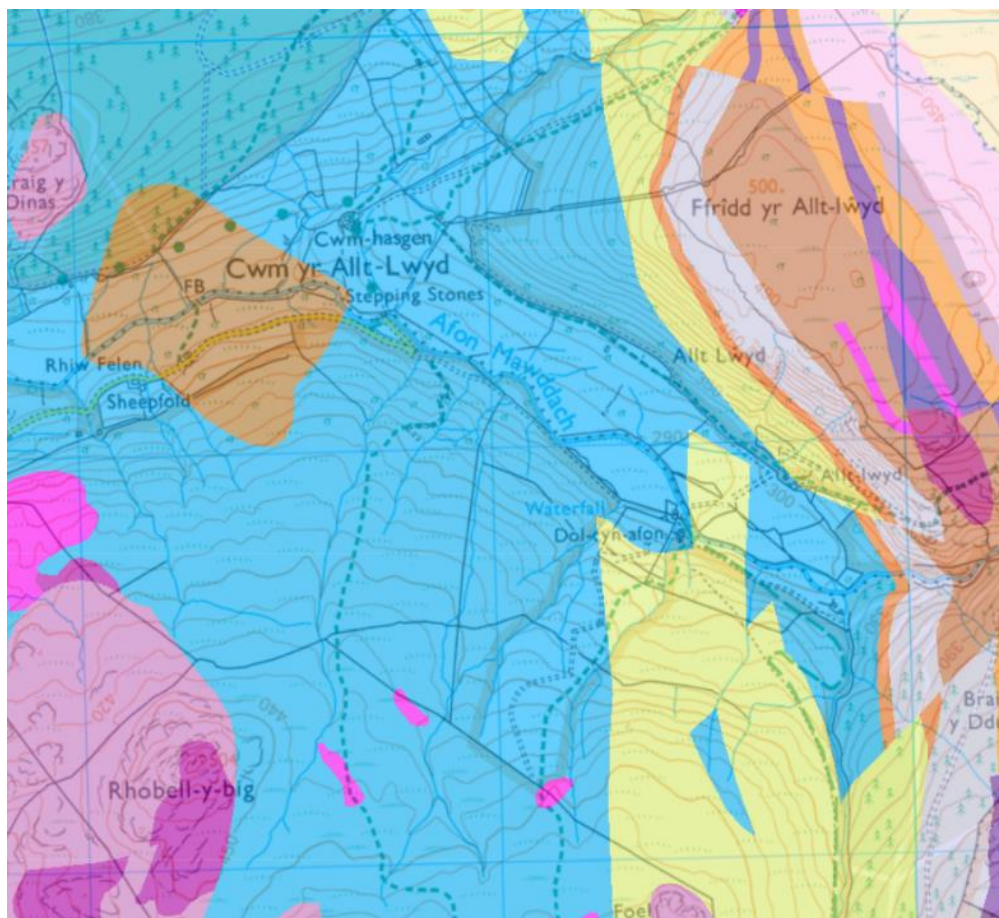
Getting there: Your destination is Cwm yr Allt-Lwyd, SH786294. Follow the A470 north and turn right at Pont ar Eden (SH727248). Turn right at the bridge and follow the minor road south then north. You will need a navigator. Follow the diversions if they are still in place (they were there in March 2020). When you reach the bridge over the Afon Mawddach, drive onto to the track with the river on the left. You will find a widening of the track at SH79452881 before it crosses the stream again. There is room for about 3 cars here. Be aware that the local farmer is not as positive about NRW as one would like and would not give permission to cross his land. Please stay on public footpaths unless on Open Access.

Permission: Open Access, PROW's

Safety: BBS Risk Assessment



Geological map: **Blue** = Dolgellau formation: mudstone and siltstones, or basalt; **orange** = Ffestiniog Flags Formation = mudstone, siltstone and sandstone; **yellow** = Dol (mudstone); **purples** = Rhobell Volcanic Group (basalt); **bright pink** = microgabbro intrusions.



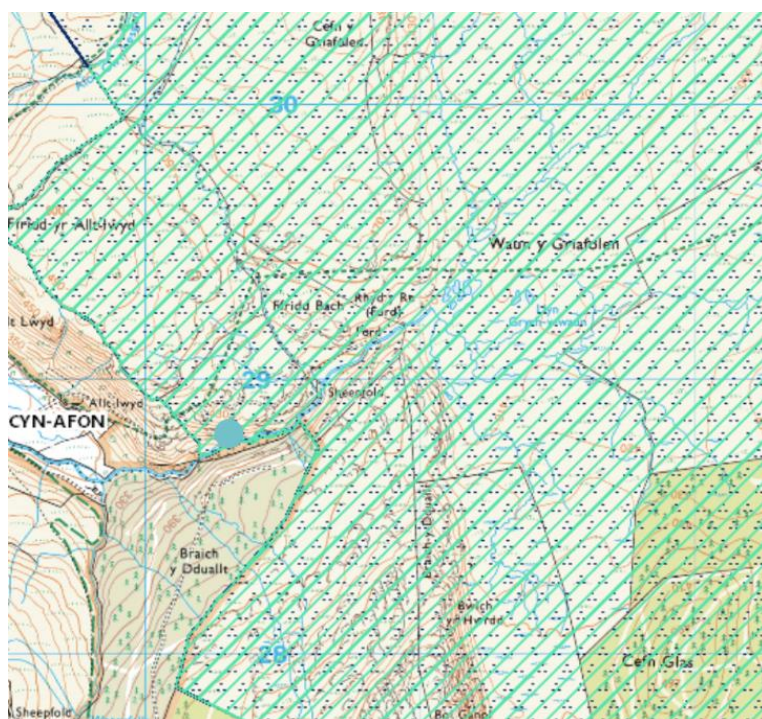
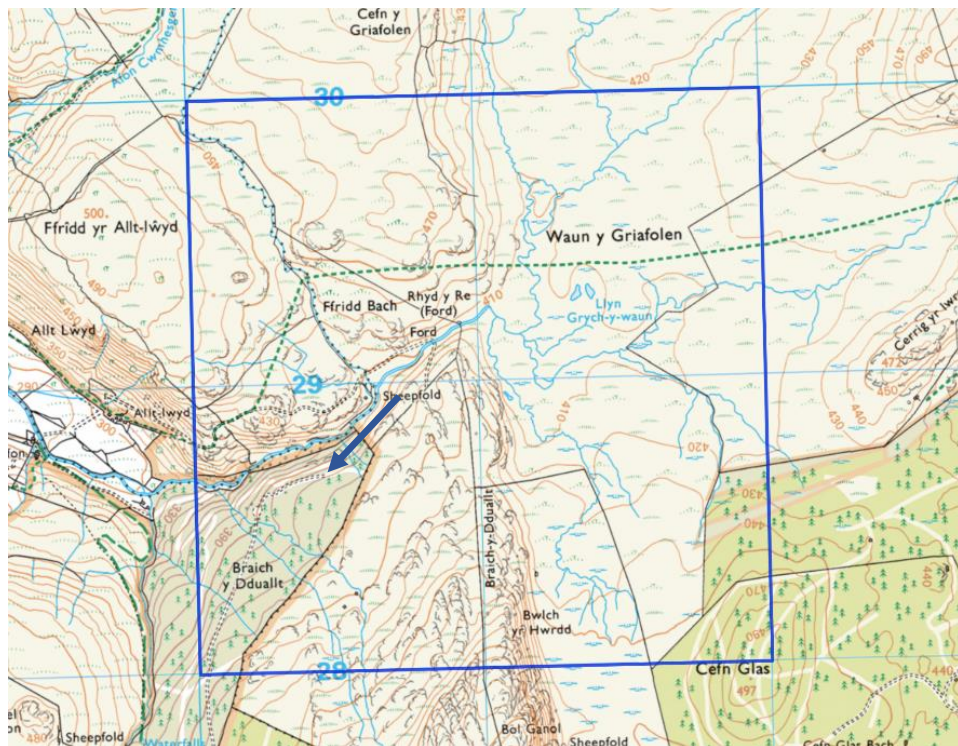
FRIDAY 17TH SEPTEMBER. SECOND SITE**High Level****SH82E. (SH8028, SH8029, SH8128, SH8129). Dduallt**

All or part of each monad is in Mineint-Arenig-Dduallt SSSI. The fords over the Afon Mawddach can be quite deep, so care needs to be taken when crossing it. This may be a day for wellies. SH8128 has pre-2000 2 records

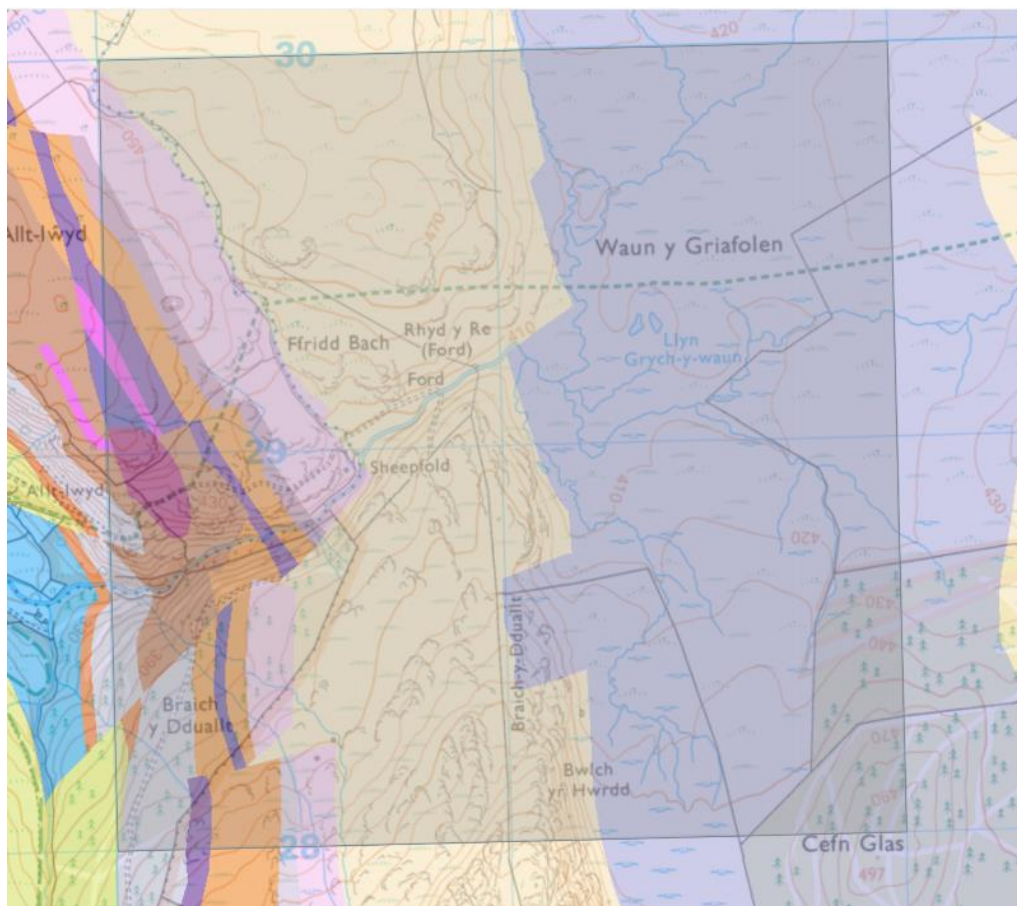
Getting there: Take the A 494 then left towards the forestry at Moel Caer-defaid at SH798216. The forestry road is in very good condition apart from a small stretch where the tarmac had broken up, but otherwise driving here in most cars would be possible. Park cars at about SH804286 – north end of the forestry –near Braich y Dduallt.

Permission: Open Access, PROW's, NRW Forestry

Safety: BBS Risk Assessment. Care must be taken crossing fords.



Geological map: **grey-blue** = Nant Ffrancon Subgroup (siltstones); **yellow** = Aran Fawddwy Formation (tuff and felsic); **purples and orange** = Benglog Volcanic Formation = tuffaceous; **bright pink** = microgabbro intrusions.



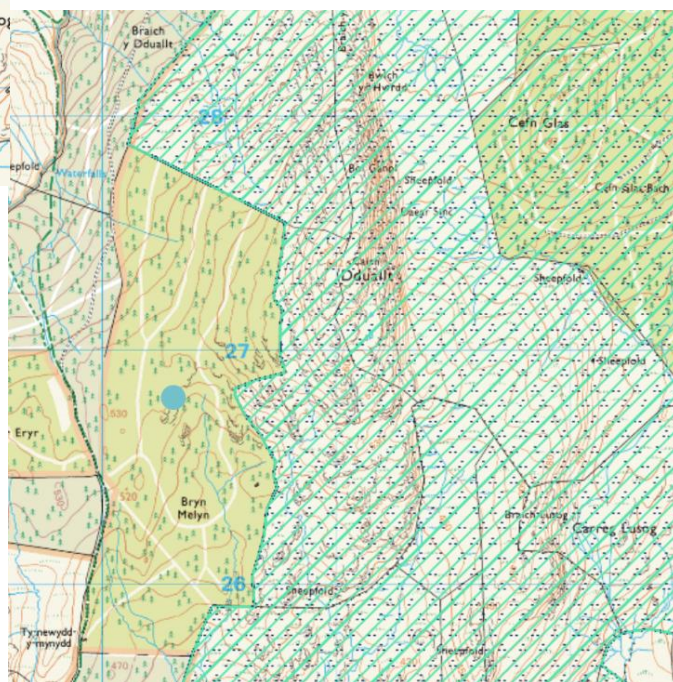
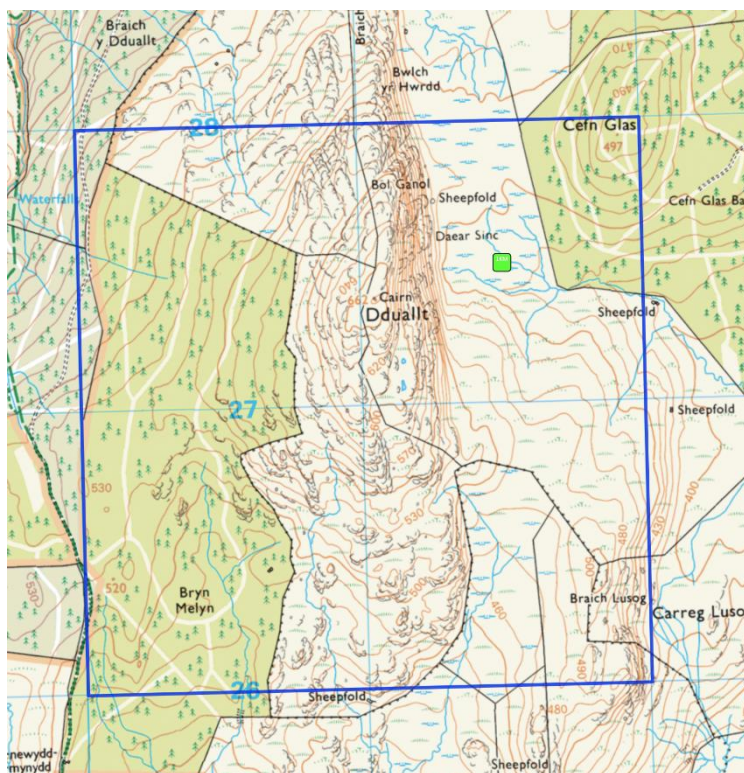
FRIDAY 17TH SEPTEMBER. THIRD SITE**High /Mid Level****SH82D. (SH8026, SH8027, SH8126, SH8127), Dduallt**

All or part of each monad is in Mineint-Arenig-Dduallt SSSI. This may be a day for wellies, as it's pretty wet at the base of Dduallt. Please check for *Orthilia secunda* (Serrated Wintergreen) (at about SH812277) in a gully above the sheepfold. SH8127 *Orthocaulis atlanticus* (was *Barbilophozia atlantica*) was found in 1985 by Peter Benoit. The forestry could be recorded by a separate group.

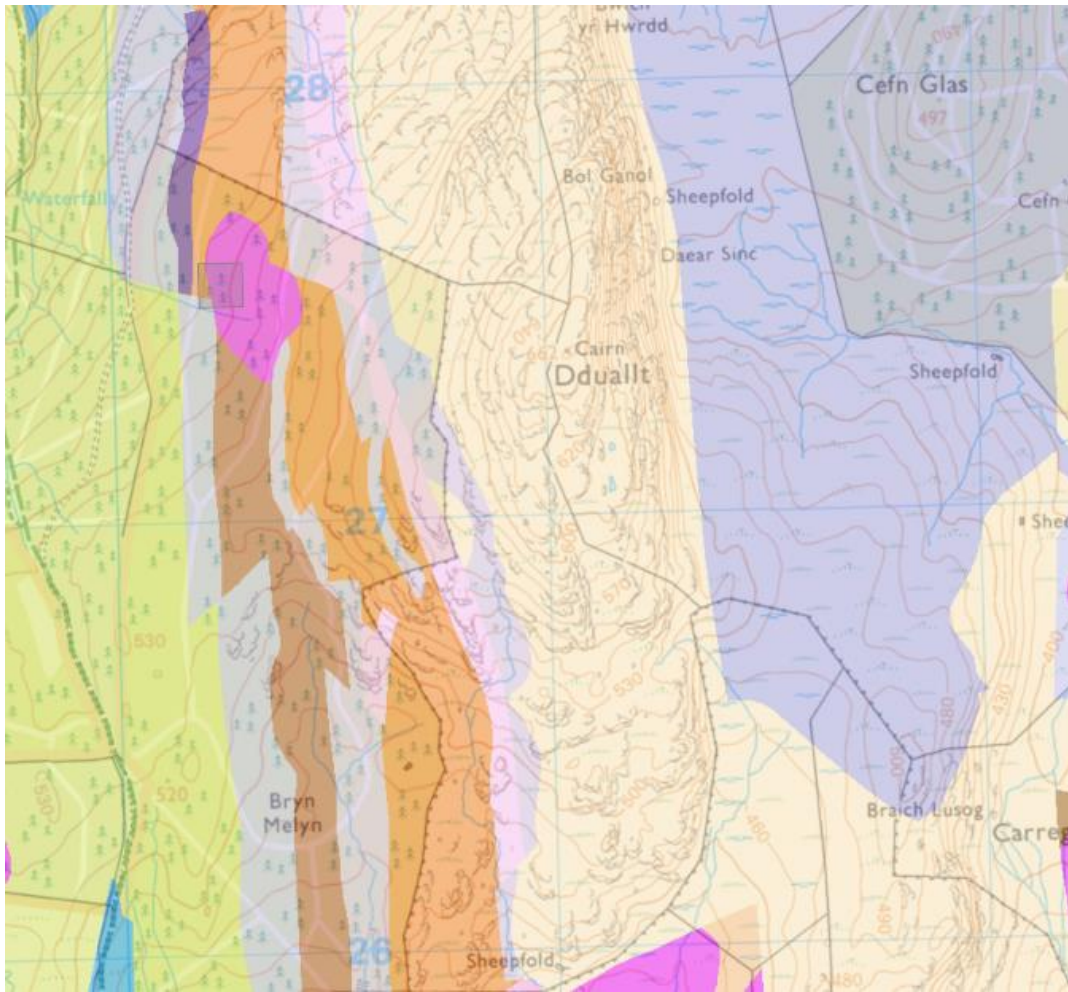
Getting there: Take the A 494 then left towards the forestry at Moel Caer-defaid at SH798216. The forestry road is in a bit ropery but passable. Park cars at about SH804286 – north end of the forestry –near Braich y Dduallt or at SH79992645 to allow access to the forest. You have to do past the 'Road Closed' sign to reach the parking spot. Access to the mountain is pretty rough and should only be attempted by the reasonably fit.

Permission: Open Access, NRW Forestry

Safety: BBS Risk Assessment. Care must be taken crossing fords.



Geological map: **grey-blue** = Nant Ffrancon Subgroup (siltstones); **yellow** = Aran Fawddwy Formation (tuff and felsic); **purples and orange** = Benglog Volcanic Formation = tuffaceous; **bright pink** = microgabbro intrusions.



FRIDAY 17TH SEPTEMBER. FOURTH SITE

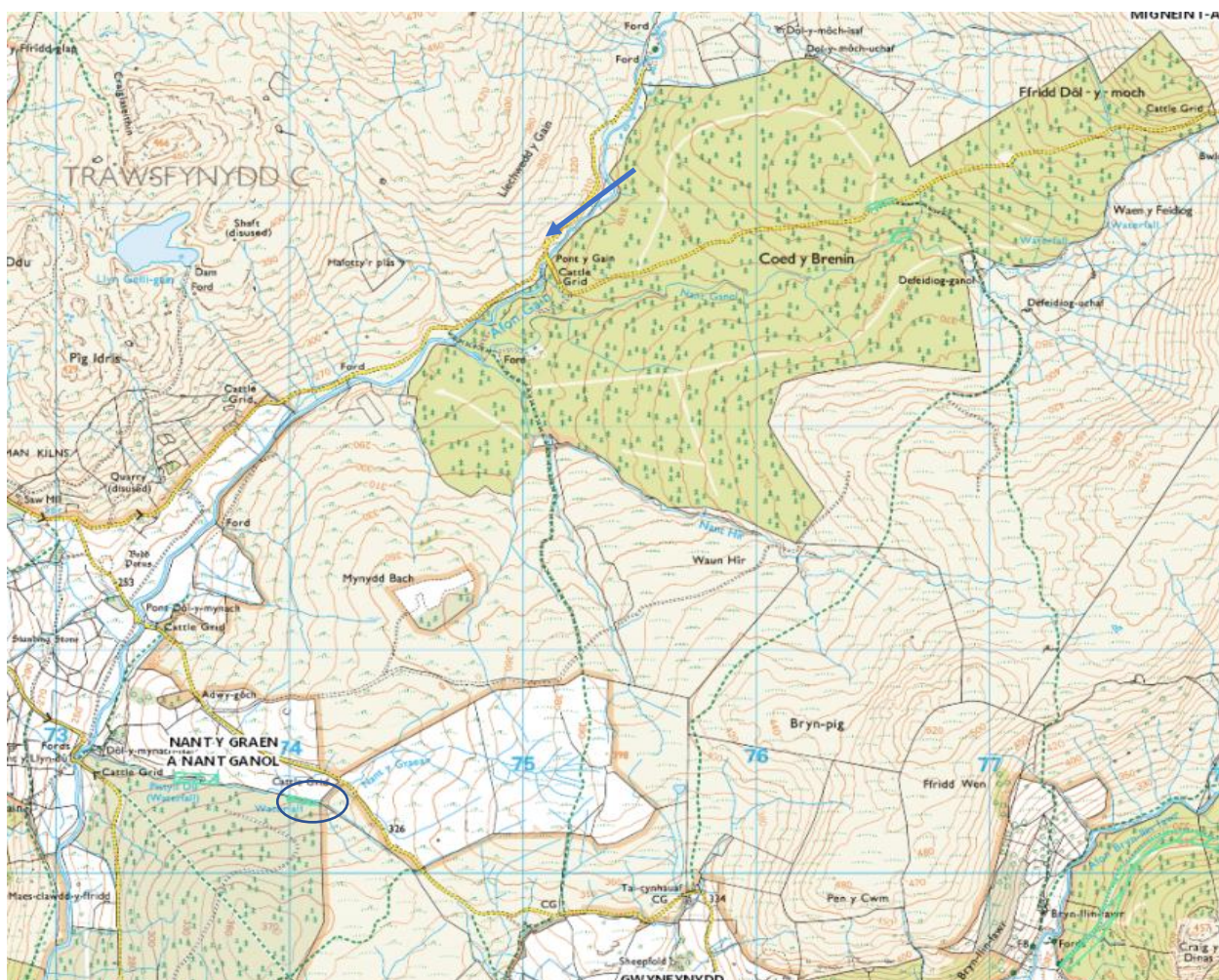
Mid Level

SH73K. (SH7430, SH7431, SH7530, SH7431). Mynydd Bach.

The woodland has been clear felled at Pont y Gain. No designations. Sam Bosanquet has recorded around Pont y Gain. Opportunity to observe *Grimmia atrata* on the bridge. Nant y Graen a Nant Ganol, SSSI, SH74053032 (by waterfall, circled) could be accessed from adjacent minor road. No records for this part of the SSSI so the lower parts of the SSSI in SH7330 could be recorded. Note that between 1903 and 1950 the land shown as woodland on the map was used as a military firing range. This land was sold by the War Department to the Ministry for Agriculture, Fisheries and Food in 1964. The area was ploughed using specially armoured tractors and subsequently planted with Sitka Spruce, which has now been clear felled. Regarding the ploughing, former FCW records state 'As they completed the work they unearthed in the region of 900 live items and about 20 tons of expended pieces of ordnance'. The public rights of way through the woodland are safe to walk. The majority of the tetrad is unaffected. **Getting there:** Head north on the A470 and turn right opposite Bronabar and head towards Pont y Gain and park at approximately SH74683244. There is enough room for at least 4 cars. There are other ways of access ing this tetrad. There is further parking at Dol-y-mynach SH73343113.

Permission: Open Access

Safety: BBS Risk Assessment. Care must be taken when accessing the waterfall at Pistyll Du.



Geological map: *Pale green* = Maentwrog Formation (mudstone, siltstone and sandstone); *orange* = Ffestiniog Flags Formation = mudstone, siltstone and sandstone

