Cyfoeth Naturiol Cymru
Natural Resources Wales

A bryophyte assessment of Coedydd Nedd a Mellte SAC and associated SSSIs, 2006 to 2017

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Table of Contents

1. Crynodeb Gweithredol 1

2. Executive Summary 2

3. Introduction 4

Site overview 4

Past and present management 8

History of bryophyte recording 12

Bryophyte data for the SAC and SSSIs 15

4. Assessment of the bryophyte flora 17

Elements of the bryophyte flora 17

Assessment using the 1992 Guidelines 20

Assessment using the revised Guidelines 23

5. Notable bryophytes of Coedydd Nedd a Mellte 26

Threatened species 26

Nationally Rare & Scarce species 29

Woodland bryophyte assemblage 29

Limestone bryophyte assemblage 35

Riverine bryophyte assemblage 39

Oceanic/Atlantic species 41

Oceanic woodland bryophyte assemblage 41

The Atlantic bryophyte assemblage of Hodgetts (1992) 52

Other bryophytes of interest 58

6. Discussion 66

Distribution patterns 66

Changes in species composition and abundance 74

Comparison with other sites 79

7. Conclusions 82

Coedydd Nedd a Mellte in a Welsh, British and European context 82

8. References 84

Appendix 1 87

Records of selected notable species

Appendix 2 117

Full list of bryophytes recorded from Coedydd Nedd a Mellte SAC and its constituent SSSI

1. Crynodeb Gweithredol

Mae dyffrynnoedd coediog Afonydd Hepste, Mellte, Pyrddin, Nedd, Nedd Fechan a Sychryd, ar hyd ymyl ddeheuol Parc Cenedlaethol Bannau Brycheiniog (PCBB), wedi cynnal poblogaethau diddorol o blanhigion fasgwlaidd a brÿoffyt, ers amser maith. Fodd bynnag, dim ond yn yr 20 mlynedd diwethaf mae arwyddocâd y cymunedau brÿoffyt wedi cael ei werthfawrogi'n genedlaethol. Mae'r coetir derw a choetir ynn yr ucheldir, sy'n gyfoethog o brÿoffytau yn cael ei ystyried i fod o ddiddordeb Ewropeaidd ac wedi'u dynodi fel Ardaloedd Cadwraeth Arbennig Coedydd Nedd a Mellte (ACA).

Er mwyn helpu i warchod y cynefinoedd arbennig, poblogaethau planhigion a geoleg, mae'r dyffrynnoedd coediog hyn yn cael eu cynnwys o fewn dau Safle o Ddiddordeb Gwyddonol Arbennig (SoDdGA) - sef SoDdGA Blaen Nedd a SoDdGA Dyffrynnoedd Nedd a Mellte, a Moel Penderyn - y ddau ohonynt yn ymestyn tu hwnt i'r dyffrynnoedd i gynnwys tir ychwanegol sydd o ddiddordeb am amrywiaeth eang o resymau rhywogaethol, cynefinol a geolegol.

Mae gwaith arolwg yn ystod yr 20 mlynedd diwethaf wedi gwella ein gwybodaeth am ddosbarthiad a phoblogaethau llawer o rywogaethau, o fewn yr ACA ac o fewn Cymru a'r DU. Cynrychiolir brÿoffytau cefnforol yn arbennig o dda yn yr ACA, gyda llawer o rywogaethau bron cyrraedd neu ger terfyn eu gwasgariad Prydeinig. Mae'r asesiad hwn yn dangos mae'r safle hwn yw'r enghraifft bwysicaf o goetiroedd derw cefnforol yn ne Cymru, ac ymysg y safleoedd gorau yng Nghymru yn gyffredinol.

Mae'r ardal yn cynnal amrywiaeth eang o gynefinoedd ac, yn ogystal â

brÿoffytau cefnforol, mae yna gasgliadau sylweddol o brÿoffytau calchfaen a torlannol ynghyd â phoblogaethau arwyddocaol yn genedlaethol o rywogaethau prin.

Dylai'r adroddiad hwn galluogi penderfyniadau reoli safle mwy cytbwys, yn enwedig mewn perthynas â thwristiaeth mewn ardal sydd wedi tyfu'n fwy poblogaidd fel atyniad naturiol allweddol i ymwelwyr yn ne Cymru. Mae rhan helaeth o'r safle wedi ei amgylchynu gan blanhigfeydd eang, conwydd yn bennaf, a hefyd bydd gwybodaeth well am ddosbarthiad rhywogaethau cefnforol hefyd yn helpu i roi gwybodaeth i reolwyr am y planhigfeydd hyn, ac i sicrhau nad oes yna unrhyw effaith negyddol ar y nodweddion ACA/SoDdGA, a'r poblogaethau o rywogaethau pwysig.

2. Executive Summary

The heavily wooded valleys of the Rivers Hepste, Mellte, Pyrddin, Nedd, Nedd Fechan and Sychryd, along the southern edge of the Brecon Beacons National Park (BBNP), have long been known to support interesting bryophyte and vascular plant populations. However, it is only in the last 20 years that the significance of the bryophyte communities in a national context have come to be appreciated. The bryophyte-rich oak woodland and upland ash woodland are considered to be of European interest and are designated as the Coedydd Nedd a Mellte Special Area of Conservation (SAC).

To help protect the special habitats, plant populations and geology, these wooded valleys are included within two Sites of Special Scientific Interest (SSSI) – namely Blaen Nedd SSSI and Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI – both of which extend beyond the valleys to include additional land of interest for a wide

variety of geological, habitat and species reasons.

Survey work in the past 20 years has improved our knowledge of the distribution and populations of many species, both within the SAC and within Wales and the UK. Oceanic bryophytes are particularly well represented in the SAC, with many species at or near the limit of their British range. This assessment shows that this site is the most important example of oceanic oak woodland in south Wales and is amongst the top sites in Wales as a whole.

The area supports a wide variety of habitats and, as well as the oceanic bryophytes, there are significant limestone and riparian bryophyte assemblages as well as nationally significant populations of scarce species.

This report should enable more considered site management decisions, particularly in relation to tourism in an area that has become increasingly popular as a key natural visitor attraction in south Wales. A large part of the site is surrounded by extensive plantations, mostly conifers, and improved knowledge of the distribution of oceanic species will also help inform management of these plantations to ensure that there is no negative impact on the SAC/SSSI features and important species populations.

3. Introduction

Site overview

Coedydd Nedd a Mellte SAC is made up of contiguous sections of the wooded valleys of the rivers Hepste, Mellte, Pyrddin, Nedd, Nedd Fechan and Sychryd (Figure 1), on the southern edge of the Brecon Beacons massif. The village of Pontneddfechan sits at the southern edge of the SAC, where the Mellte and Nedd join, whilst Glyn-Neath is the nearest town, 2.5 km to the south-west of the SAC. The northern end of the SAC lies close to the village of Ystradfellte. The SAC straddles the administrative regions of Powys County Council, Neath-Port Talbot County Borough Council and Rhondda Cynon Taf County Borough Council, with the bulk of the site also lying within the Brecon Beacons National Park. Most of the site is within the Brecknock Area of Search (AoS) (Figure 2), but the boundaries with West Glamorgan & Llanelli AoS and with Mid & South Glamorgan AoS run along the rivers within the SAC so some of the woodland is within these two Areas of Search. The same is true when it comes to biological Vice-counties, as the Pyrddin, Nedd and Sychryd form the boundary between Brecknockshire (v.-c. 42) and Glamorganshire (v.-c. 41).

The geology of the area is dominated by rocks of the Coal Measures, Millstone Grit and Carboniferous Limestone. Apart from the limestone, which is naturally calcareous, most other rock types including sandstone, grits and shales tend to be acidic. However, within the shales and sandstones are some calcareous beds which influence local bryophyte communities. Some rocks are more porous than others and seepages through more calcareous rocks can have a profound influence on bryophyte

communities present. The bulk of the Carboniferous Limestone is found in the Dinas / lower Sychryd area and the upper part of the Nedd-fechan in the Blaen Nedd SSSI. Limestone is also present a short distance upstream of the SAC/SSSI boundary on the Mellte. The upper Hepste valley beyond the SAC also cuts through beds of limestone, but the Pyrddin mainly cuts through acidic rocks. There are extensive areas of bog and other upland habitats in the upper catchment area of all these rivers. During heavy rainfall events, water in most of the rivers can have a peaty colour and it is assumed that the acidity of the river water must fluctuate between rainfall events and more normal and low flows. The presence of limestone in the upper reaches of some of the rivers presumably influences the water chemistry.

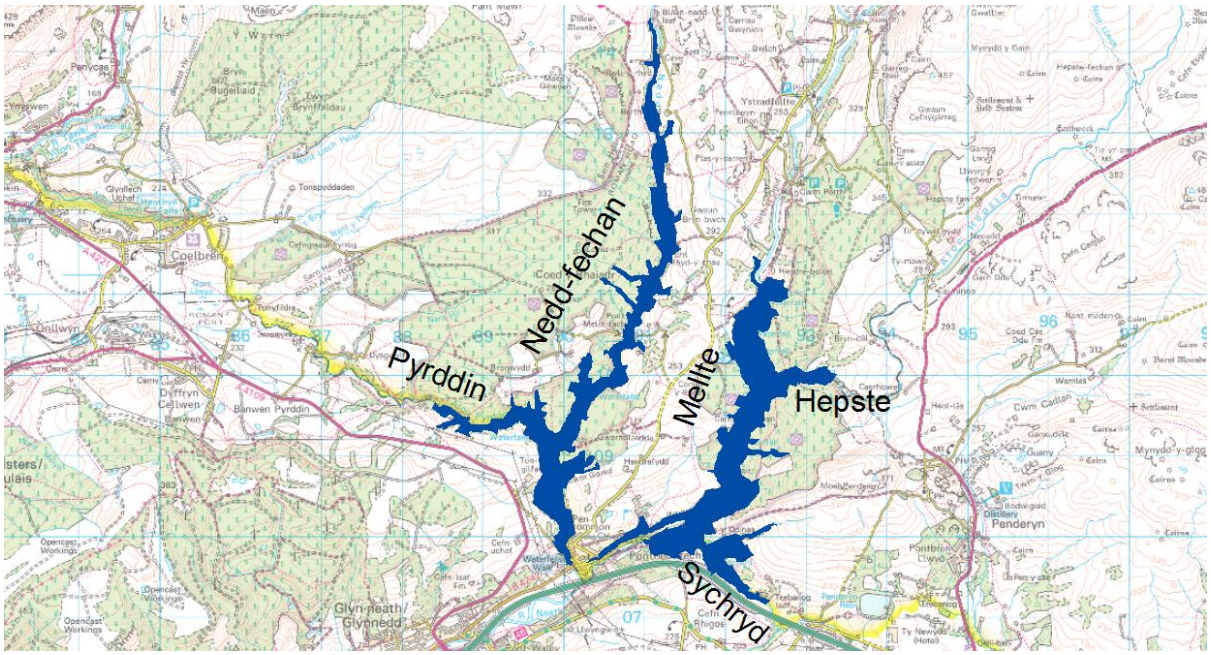


Figure 1: the five major rivers in Coedydd Nedd a Mellte SAC (blue)

The area is noted for its impressive waterfalls and is heavily promoted by local authorities and local businesses as a tourist attraction. High numbers of visitors, coupled with the area's popularity with outdoor activity pursuits, such as gorge walking,

has resulted in parts of the site becoming badly eroded due to high footfall. In the worst affected areas, such as around the waterfall at Sgwd Clun Gwyn, there has been an almost total loss of soil, with tree roots and bedrock exposed. Over the past 10 years, NRW, the Brecon Beacons National Park Authority and adjoining local authorities have been working together to improve the footpath system, educate visitors and agree protocols with outdoor activity providers to reduce the impact visitors have on the sensitive habitats and species and also restore some habitats. Forest design plans have been amended so that some areas of adjoining clear-felled conifer forest have been allowed to regenerate naturally and extend the area of native broadleaved woodland in the area.

Coedydd Nedd a Mellte SAC covers an area of 379 ha and the underpinning SSSI – Blaen Nedd and Dyffrynnoedd Nedd a Mellte, a Moel Penderyn – together cover an area of 609 ha. They straddle the administrative regions of Powys County Council, Neath-Port Talbot County Borough Council and Rhondda Cynon Taf County Borough Council, with the bulk of the site also lying within the Brecon Beacons National Park. For biological recording purposes, most of the area lies within Breconshire (V-c 42), with parts of the Sychryd, Pyrddin and Nedd valleys within Glamorgan (V-c 41).The SAC was selected for its Annex 1 habitat Old Sessile Oakwoods with Ilex and Blechnum in the British Isles, which is described on www.jncc.gov.uk as: “a very large and diverse example of old sessile oak wood in south Wales. The woods extend along a series of deeply incised valleys and ravines, and contain complex mosaics of sessile oak Quercus petraea woodland, ash Fraxinus excelsior woodland (some of which is referable to Annex I type 9180 Tilio-Acerion

forests of slopes, screes and ravines), and transitions to other lowland woodland types. The whole site is biologically rich, with many woodland plant communities represented and rich bryophyte and lichen assemblages."

Dyffrynnoedd Nedd a Mellte a Moel Penderyn SSSI underpins much of the SAC. This Site of Special Scientific Interest was notified for both biological and geological features, and includes the limestone ridge of Moel Penderyn as well as the wooded valleys. The northern part of the Nedd-fechan valley lies in Blaen Nedd SSSI, which includes limestone pasture as well as limestone woodland and other biological and geological features. The boundary between the two SSSI does not follow the boundary of the Carboniferous Limestone, so both SSSI hold species typical of limestone woodland, particularly because there are further outcrops of Carboniferous Limestone in the Sychryd and Mellte valleys.

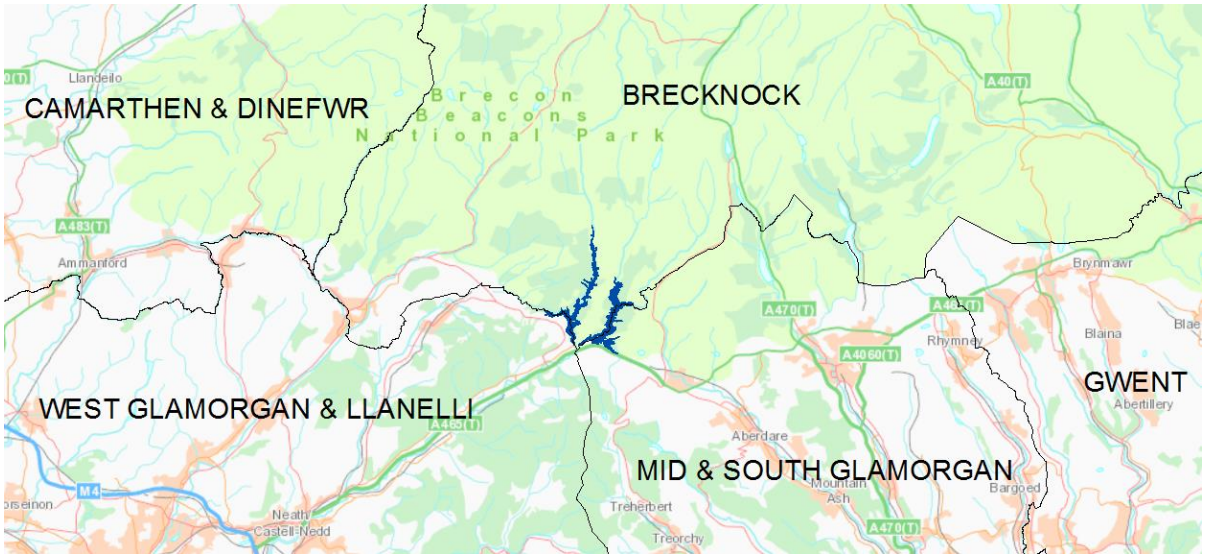


Figure 2: Coedydd Nedd a Mellte SAC (blue) in the context of nearby Areas of Search

Past and present management

Past woodland management, stock grazing and industry has no doubt influenced the present distribution of woodland types and the bryophyte communities present. Parts of Coedydd Nedd a Mellte, particularly in the south, have been subject to intense industrialisation. Limestone has been extensively quarried in the Craig y Ddinas area and limestone pavement in the upper Nedd-fechan shows the scars of past quarrying for ornamental stone. Quartzite was mined in the lower parts of the Nedd and Sychryd for the production of firebricks from the late 18th century. Mining was particularly intensive along the lower Sychryd and it continued until 1964. Today, much of the woodland present in this part of the site consists of relatively young trees – mainly ash and hazel. The woodland here tends to be poor in oceanic species, although the limestone itself supports some interesting lime-loving bryophytes.

A gunpowder industry thrived in the lower Mellte valley from the mid 19th century until 1931. The site was chosen partly for its isolated location, but also because the river provided power for machinery and the woodland charcoal for the production of the gunpowder. The ruined buildings, tramways and system of leats can still be seen today. Following abandonment of the works, much of the area was planted with conifers – with beech in some places – and the resulting woodland, although now mature, has only a poor representation of oceanic bryophytes. Currently projects are being planned by the BBNPA to improve access to the archaeology, and also to return the conifer plantation to native broadleaved woodland.

Today, the main ‘industry’ in the area is in the form of tourism. Large numbers of walkers visit the area to enjoy the spectacular scenery and waterfalls, but pressure

from footfall can be significant – one only needs to visit popular locations, such as Sgwd Clun-gwyn, to see how erosion caused by many feet has led to almost total loss of soil, revealing bedrock below. Ultimately, in these worst affected areas, regeneration of trees may not be possible and in time large gaps in the canopy could result. Over the past 25 years or so, thriving outdoor leisure businesses, which include gorge walking amongst their activities, have focussed on the Coedydd Nedd a Mellte area, putting additional pressure on parts of the site which would otherwise be seldom visited. Over the past decade the BBNPA and NRW have developed a management plan, in which one of the main aims is to manage recreational access in the area, ensuring that resources are funnelled into improving and maintaining the footpath system and educating visitors. A major output of this plan has been the development with the input from outdoor recreation providers/ businesses, to create a code of conduct, which should help reduce the impact their activities have on the environment.

It is difficult to know what the effects of air pollution have been at the site, but charcoal making and widespread burning of coal in the past must have had at least local effects, and the location of the SAC to the north-east of the highly industrialised areas of Neath and Swansea must have resulted in significant deposition of pollutants such as sulphur dioxide. Highly polluting industries are now mostly a thing of the past, and current sulphur dioxide levels are much lower than just a few decades ago. In Britain and Ireland, a group of bryophyte (and lichen) species appear to be benefitting from improved air quality, possibly combined with climatic change, and are spreading into areas that were previously almost devoid of epiphytes (Blockeel *et al.* 2014). At the same time, some hyperoceanic epiphytes such as *Colura calyptrfolia* and *Ulota*

calvescens are spreading into Britain from the west. Changes in the bryophyte flora are discussion in section 8 of this report.

The oak trees at the site were no doubt in the past used for the production of pit props for the extensive coal mining industry in south Wales. It is difficult to know which areas would have been most intensively harvested, but it is fortunate that the large size of the site, coupled with steep terrain in places from which it is difficult to access or abstract wood, undoubtedly means that some parts of the SAC may have remained relatively untouched for a long period.

Aerial photographs from 1945 show that extensive parts of the site had been clearfelled in World War 2. The areas most affected were the west bank of the Nedd between Pontneddfechan and Sgwd Gladws, the north and west bank of the Mellte around the Gunpowder Works and several smaller areas upstream towards the confluence with the Hepste. This clearfelling undoubtedly affected the bryophyte flora and is discussed further in section 8 of the report.

The Forestry Commission (now incorporated into NRW) acquired large areas of land to the west of the Mellte 1952, land to the north of the Hepste in 1964 and south of the Hepste in 1973. Large parts of Coedydd Nedd a Mellte were included in these land purchases. Most of the acquired land, which was formerly farmland, was planted with conifers, with the first crop maturing and being felled in 2007. Large areas of these conifer plantings immediately adjoin the natural broadleaved woodland within Coedydd Nedd a Mellte and presumably afford some protection from weather, potentially helping to maintain humidity levels in some parts of the site. NRW's Forest Management Plan for the area treats the broadleaved woodland within the SSSI/SAC

as non-intervention management land, with conifer plantation on what was formerly ancient woodland (PAWS = Plantations on Ancient Woodland Sites), felled and allowed to return to native broadleaved woodland, sometimes through planting with native broadleaved trees. Recently, large areas of larch planation have been felled due to the disease *Phytophthora ramorum*. The plans are regularly revised and consideration is given to the impacts that forest operations could have on adjoining SSSI/SAC woodland. Ultimately, large parts of Coedydd Nedd a Mellte SAC could become surrounded by additional mature broadleaved woodland, which should help provide a buffer for the special features of the site, including oceanic bryophytes. In some parts of Coedydd Nedd a Mellte, there have been issues with conifers seeding into the broadleaved woodland. These have been periodically cleared, often by the BBNPA wardening team, but it is expected that as areas of mature conifers are felled and replanted, the problem of self-seeding should reduce.

Although a sizeable part of the Coedydd Nedd a Mellte woodland is owned by large organisations such as the BBNPA, NRW and the National Trust, many areas remain in private ownership, attached to farms. NRW works with owners to ensure that the woodland habitat is managed appropriately to benefit the special features, and some farms have entered into agri-environment agreements to enhance woodland habitats. Often management is simply aimed at ensuring that woodlands are ungrazed or only lightly grazed so that tree regeneration is possible. Currently, grazing by deer is not an issue, although populations appear to be increasing nationally and they could possibly become an issue in the future.

History of bryophyte recording

The SAC and its constituent SSSI were known to the bryologists of the early and mid-20th century, although few species of interest were discovered until the late 20th century. The first record of interest from the area was the *Platydictya jungermannioides* collected by HH Knight in the Mellte valley (probably upstream of the SSSI and SAC). The British Bryological Society visited the Hepste Valley in 1927, and the Nedd-fechan in 1984, noting *Dicranum flagellare* and *Jamesoniella autumnalis*. Ray Woods made a number of visits in the 1980s and 1990s, and was the first person to identify *Anastrophyllum hellerianum* from the SAC. In spring 1994, partly to gain a better understanding of the distribution of bryophytes and filmy ferns and the impact outdoor activities such as gorge walking might be having on the site, the Brecon Beacons National Park Authority (BBNPA) commissioned Martha Newton to undertake a survey of the area (Newton, 1994). This 15 day survey produced many localised records of the uncommon bryophytes known from the site, as well as first records of a range of other scarce species. The survey revealed that some scarce species, such as *A. hellerianum*, might be reasonably widespread in the woodlands at this site. Newton also made notes on the distribution of the humidity-demanding filmy ferns *Hymenophyllum tunbridgense* and *H. wilsonii* and suggested monitoring locations for some vulnerable bryophyte populations. *Sphenolobopsis pearsonii* was her most notable discovery, although *Colura calyptrifolia* was thought to be equally remarkable at the time. Sgwd yr Eira was surveyed in detail using ropes by Rich *et al.* (2007). The BBNPA also commissioned Nick Hodgetts to survey the Mellte Valley in 2012, with a focus on monitoring potential impacts from 'gorge walking' and tourism;

his most interesting addition to the SAC bryophyte flora was *Heterocladium wulfsbergii*.

Graham Motley (GSM) and Sam Bosanquet (SDSB) first visited the SAC to look for bryophytes in November 1999. The oceanic bryophyte flora was almost entirely new to them so they were guided by Martha Newton's report, and recall being astonished that anybody could identify such seemingly obscure species! Over the next few years, both GSM and SDSB cut their bryological teeth in Carmarthenshire, and became, respectively, the Senior Conservation Officer in charge of the SAC and CCW's (now NRW's) Bryophyte Ecologist. Graham discovered *Rhytidiadelphus subpinnatus* new for Breconshire at Pont Melin-fach in 2006, and then noted *Lepidozia cupressina* new for the SAC in 2008. A nagging feeling that bryophyte survey coverage of the site was incomplete was heightened when Sam spotted *Aphanolejeunea microscopica* new for Glamorganshire by the Pyrddin in 2010. A series of recording visits followed: initially focussing on areas that were not looked at by Martha Newton, but eventually aiming at wider coverage of the SAC (Figure 3). Notable species discovered during these visits included *Daltonia splachnoides*, *Drepanolejeunea hamatifolia*, *Frullania fragilifolia*, *Plagiochila bifaria* and *P. exigua*: the feeling that the SAC had more riches to yield was correct! The present report brings together the records made by GSM and SDSB between 2006 and January 2017, along with those made by previous recorders, and uses them to assess the bryophyte conservation importance of this SAC and the SSSI that underpin it.

Due to the difficult terrain, surveys often involved following footpaths, with diversions to investigate interesting looking areas. It is inevitable that some rich areas

have been missed, especially on high or inaccessible crags, steeper slopes, river banks and aquatic habitats. Notes on the location and abundance of interesting species were made, backed up by GPS readings when a signal was available. Specimens of difficult taxa were sampled for microscopical examination and voucher specimens collected for any species new to Breconshire or Glamorgan. Some specimens have been retained in SDSB's or GSM's private Herbaria or lodged in the Herbarium at the National Museum of Wales Cardiff (NMW), with Vice-county voucher specimens lodged in the British Bryological Society Herbarium (BBSUK).

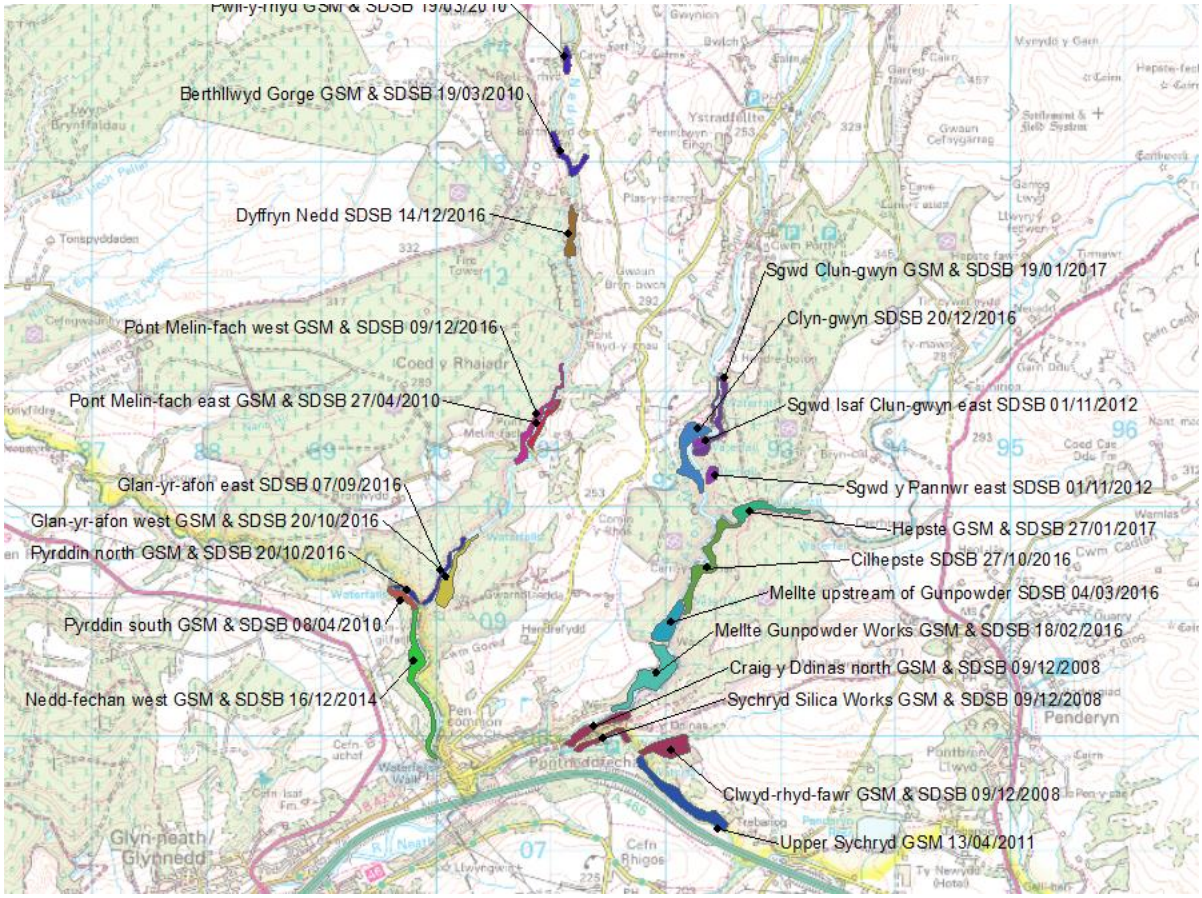


Figure 3: survey coverage of sections of Coedydd Nedd a Mellte SAC by GSM and/or SDSB since 2006.

Bryophyte data for the SAC and SSSIs

A dataset of records of notable bryophyte species was compiled by GSM for the current assessment, using data from the National Biodiversity Network (NBN Gateway), Local Environmental Records Centres (LERCs) and *de novo* recording. All records were assigned to an 8-figure Grid Reference if possible, with 6-figure Grid References used for older records (prior to accurate GPS units) or those that lacked location notes. The use of 8-figure Grid References, which define a 10x10m area, is consistent with the Grid Mapping approach described by Callaghan (2013) and allows comparison of bryophyte population sizes between Coedydd Nedd a Mellte and other sites in Wales (see Callaghan, 2016).

Bryophyte data for Breconshire, including all of those from the SAC made prior to the explorations of GSM and SDSB, were mobilised from paper records by BIS (Biological Information Service for Powys and the Brecon Beacons National Park), and their dataset is the most complete one for the county. Unfortunately, the complexities of biological data make the unquestioning acceptance of BIS records from Coedydd Nedd a Mellte impossible. The current evaluation of the bryophyte interest of the SAC included checking through the data and removing various erroneous records. Examples are:

- species input errors resulting from abbreviations, for example *L het* being input as the Nationally Scarce *Leiocolea heterocolpos* rather than the common *Lophocolea heterophylla*;

- centroid errors, where lists for an entire SSSI were input using a site centroid, which in the case of a large site such as Coedydd Nedd a Mellte may be in a different hectad to the actual species locality;
- date errors, where compilation lists were treated as records made in the year of compilation, even when the actual records came from several decades previous;
- recorder errors, where species mentioned in a SSSI citation were input as though they were genuine records, with the author of that citation being used as the recorder (Dave Drewett in the case of Coedydd Nedd a Mellte) and the date of the notification being used as if it was the date when a species was found.

In addition to these problems, many records appear several times, sometimes with different degrees of accuracy (4-, 6- and 8-figure Grid Reference) or different dates (day, month, year or year range). Two records of *Sphenolobopsis pearsonii* – the original discovery by Martha Newton and a revisit by SDSB and GSM – have become 19 records in the dataset!

All of the *de novo* records made by GSM and SDSB we sent directly to BIS and to the British Bryological Society (BBS) data manager at the Centre for Ecology and Hydrology (CEH). Records made by other recent visitors to the site, including Nick Hodgetts, Barry Stewart and Charles Hipkin, were sent to BIS and the BBS and were checked immediately by SDSB. These recent data should contain few if any errors.

4. Assessment of the bryophyte flora

Elements of the bryophyte flora

Notable bryophyte species are found throughout the SAC (Figure 4). The term notable includes species that are:

- Threatened, with an IUCN threat status on the GB Red List;
- Of principal nature conservation importance, on Section 7 of the Environment (Wales) Act (which superseded Section 42 of the NERC Act);
- Nationally Rare, recorded in 1–15 10km squares of the British National Grid;
- Nationally Scarce, recorded in 16–100 10km squares;
- Restricted to westernmost Europe, belonging to the Hyperoceanic or Oceanic categories of Hill & Preston (1998), and used in the (draft) revised SSSI selection guidelines.

In addition, the SAC supports 28 species that are rare or scarce in the Vice-counties of Breconshire and Glamorganshire according to Bosanquet (2011b). Most of these are notable for other reasons, leaving only a few such as *Dicranum montanum* and *Odontoschisma denudatum* that are not included in SSSI assessment but are of clear local interest. A broader suite of western British and Atlantic bryophytes was used by Hodgetts (1992) to identify SSSIs, along with a number of species that have subsequently been demoted from Nationally Scarce because they were previously under-recorded. These are mentioned in the assessment using the 1992 Guidelines (below), but are generally not discussed in detail in section 5 of the current report. A full list of bryophytes recorded in the SAC is given in Appendix 2.

The ecology of the notable species is as wide as their distribution. *Fissidens rivularis* and *F. rufulus* grow on rocks that are inundated by flowing water for much of the year, *Heterocladium wulfsbergii* is routinely pounded by spray, and *Campylopus subulatus* thrives where there is at least periodic inundation. *Anastrophyllum hellerianum*, *Daltonia splachnoides* and *Jamesoniella autumnalis* grow alongside *Cephalozia catenulata*, *Nowellia curvifolia*, *Odontoschisma denudatum*, *Tritomaria exsectiformis* and other liverworts on decorticated logs, as well as on the base-poor bark of some ancient woodland trees. The base-rich bark of Ash supports the Hyperoceanic liverworts *Aphanolejeunea microscopica*, *Drepanolejeunea hamatifolia* and *Plagiochila exigua*, particularly near waterfalls, whilst *P. punctata* is found on base-poor bark and sometimes on rocks. *Plagiochila bifaria* and *P. spinulosa* are also characteristic of both tree trunks and crags, whereas the large moss *Bartramia halleriana* is found only on rock outcrops. A crag in the mist [1]zone of one waterfall is home to *Sphenolobopsis pearsonii*, and another, drier crag holds *Frullania fragilifolia*. *Lepidozia cupressina* has only been recorded in one area of scree, and even *Bazzania trilobata* is remarkably localised. *Rhytidiadelphus subpinnatus* has one of its GB hotspots on steep woodland banks, particularly close to footpaths. A different suite of bryophytes is found in limestone ravines. *Amblystegium confervoides* grows on embedded stones and *Platydictya jungermannioides* in deep crevices, whilst *Seligeria acutifolia*, *S. donniana* and *S. pusilla* pick out seeping limestone. The only open limestone within the SAC boundary, at Craig y Ddinas, supports *Bryum torquescens*.

[1] The mist zone is an area of tangible or visible mist associated with a waterfall or cascade, where a hypersaturated atmosphere is generated by a combination of flowing, falling water and topography (Bosanquet, 2015).

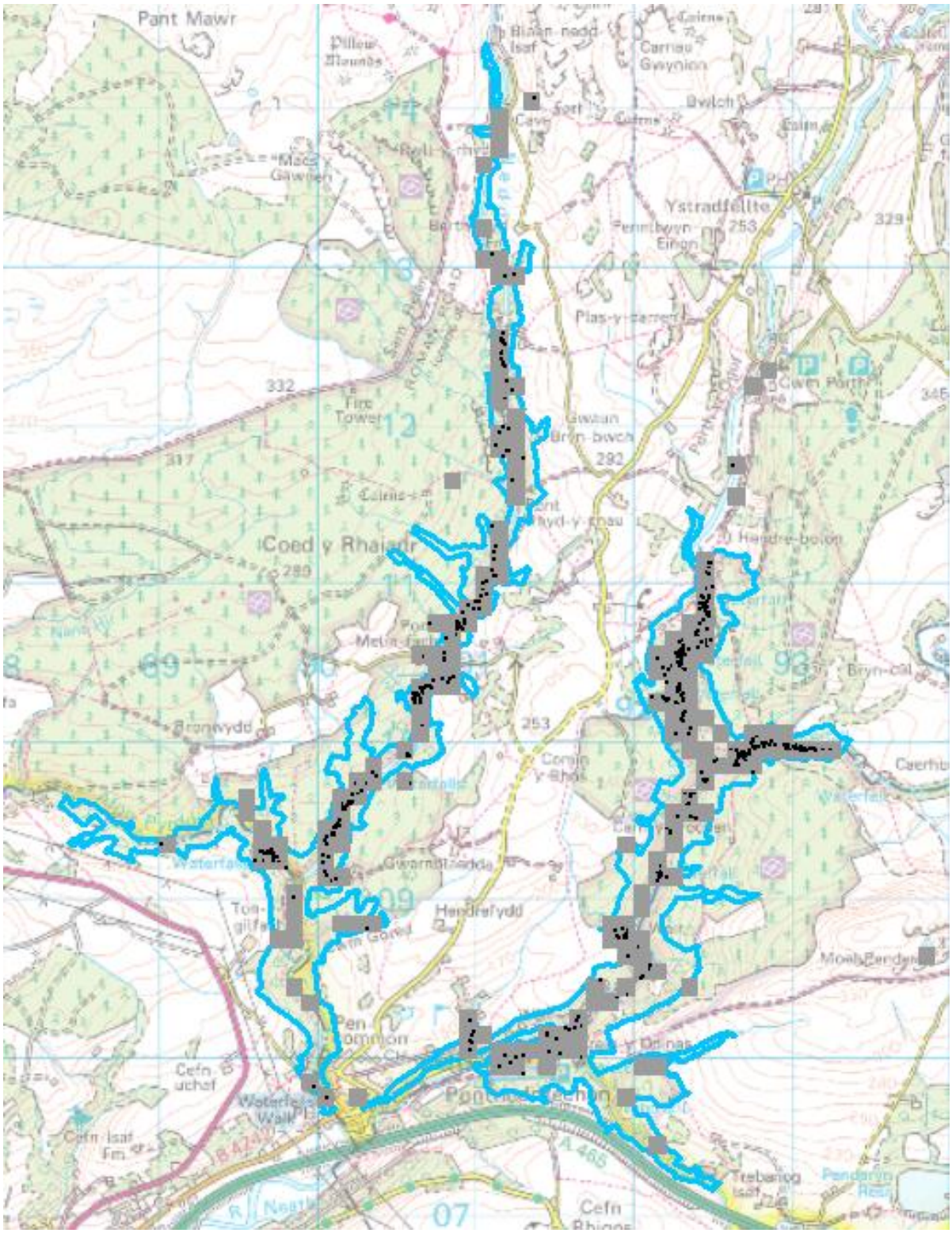


Figure 4: distribution of notable bryophytes (see Appendix 1) in Coedydd Nedd a Mellte SAC and a few adjacent areas (Moel Penderyn in the south-east, and limestone of the upper Mellte).

Assessment using the 1992 Guidelines

The 1992 *Guidelines for Selection of Biological SSSIs: non-vascular plants* (Hodgetts, 1992) uses a scoring system to identify which sites qualify as SSSI for their bryophytes or lichens. Nationally Rare species scored 100 points, Nationally Scarce species received 50 or 30 depending on which part of Britain the site was in, and a list of Strictly Atlantic, Atlantic and Western British mosses and liverworts added 5 or 10 points apiece. The entire bryophyte list for the site was combined into a single score, regardless of the ecology of each species, and the system worked well so long as it was not taken as inviolable. Problems occurred when attempts were made to compare homogenous sites with heterogeneous ones, so a very diverse assemblage of Atlantic liverworts might be outscored by a modest assemblage of Atlantic liverworts that grew alongside a flush moss and a scree liverwort.

Table 1 presents an assessment of the SSSI bryophyte flora at the time of Martha Newton's 1994 bryophyte survey, along with a revised assessment using current statuses. The threshold for a site to qualify as a SSSI in the three Areas of Search into which Coedydd Nedd a Mellte falls is 300 points, so the totals of 1045 and 1240 surpass this with ease. Although a number of species that were considered to be Nationally Scarce in the 1990s have been demoted, the number of additions to the recorded bryophyte flora of the SAC more than compensates for this loss of score.

Species	1992 Status	1992 Score	2016 Status	2016 Score
Amblystegium confervoides	Nationally Scarce	(50)	Nationally Scarce	50
Anastrophyllum hellerianum	Nationally Scarce	50	Nationally Scarce	50
Bartramia halleriana	Nationally Scarce	50	Nationally Scarce	50
Brachydontium trichodes	Nationally Scarce	50	Nationally Scarce	50
Bryum torquescens	Nationally Scarce	(50)	Nationally Scarce	50
Campylopus subulatus	Nationally Scarce	(50)	Nationally Scarce	50
Cephalozia catenulata	Nationally Scarce	50	not scarce	-
Cololejeunea minutissima	Nationally Scarce	50	not scarce	-
Colura calyptrifolia	Nationally Scarce	50	not scarce	-
Daltonia splachnoides	Nationally Rare	(100)	Nationally Rare	100
Dichodontium flavescens	Nationally Rare	100	not scarce	-
Dicranum flagellare	Nationally Scarce	50	Nationally Scarce	50
Fissidens rivularis	Nationally Scarce	50	Nationally Scarce	50
Fissidens rufulus	Nationally Scarce	50	Nationally Scarce	50
Heterocladium wulfsbergii	Nationally Scarce	(50)	Nationally Scarce	50
Jamesoniella autumnalis	Nationally Scarce	50	Nationally Scarce	50
Plagiochila britannica	Nationally Scarce	50	not scarce	-
Platydictya jungermannioides	Nationally Scarce	(50)	Nationally Scarce	50
Rhytidiadelphus subpinnatus	Nationally Rare	(100)	Nationally Scarce	50
Schistidium platyphyllum	Nationally Scarce	50	not scarce	-
Seligeria acutifolia	Nationally Scarce	50	Nationally Scarce	50
Seligeria donniana	Nationally Scarce	(50)	Nationally Scarce	50
Seligeria pusilla	Nationally Scarce	(50)	Nationally Scarce	50
Sphagnum flexuosum	Nationally Scarce	50	not scarce	-
Sphenolobopsis pearsonii	Nationally Scarce	50	Nationally Scarce	50
Aphanolejeunea microscopica	Strictly Atlantic	(10)	Strictly Atlantic	10
Drepanolejeunea hamatifolia	Strictly Atlantic	(10)	Strictly Atlantic	10
Fissidens celticus	Strictly Atlantic	10	Strictly Atlantic	10
Isothecium holtii	Strictly Atlantic	10	Strictly Atlantic	10
Jubula hutchinsiae	Strictly Atlantic	10	Strictly Atlantic	10
Lejeunea lamacerina	Strictly Atlantic	10	Strictly Atlantic	10
Lepidozia cupressina	Strictly Atlantic	(10)	Strictly Atlantic	10
Marchesinia mackaii	Strictly Atlantic	(10)	Strictly Atlantic	10
Plagiochila bifaria	Strictly Atlantic	(10)	Strictly Atlantic	10
Plagiochila exigua	Strictly Atlantic	(10)	Strictly Atlantic	10
Plagiochila punctata	Strictly Atlantic	10	Strictly Atlantic	10
Saccogyna viticulosa	Strictly Atlantic	10	Strictly Atlantic	10
Breutelia chrysocoma	Sub-Atlantic	5	Sub-Atlantic	5
Calypogeia arguta	Sub-Atlantic	5	Sub-Atlantic	5

Campylopus flexuosus	Sub-Atlantic	5	Sub-Atlantic	5
Entosthodon obtusus	Sub-Atlantic	5	Sub-Atlantic	5
Fontinalis squamosa	Sub-Atlantic	5	Sub-Atlantic	5
Heterocladium heteropterum	Sub-Atlantic	5	Sub-Atlantic	5
Hookeria lucens	Sub-Atlantic	5	Sub-Atlantic	5
Hyocomium armoricum	Sub-Atlantic	5	Sub-Atlantic	5
Hypnum resupinatum	Sub-Atlantic	5	Sub-Atlantic	5
Lejeunea patens	Sub-Atlantic	5	Sub-Atlantic	5
Metzgeria consanguinea	Sub-Atlantic	5	Sub-Atlantic	5
Microlejeunea ulicina	Sub-Atlantic	5	Sub-Atlantic	5
Orthotrichum pulchellum	Sub-Atlantic	(5)	Sub-Atlantic	5
Plagiochila spinulosa	Sub-Atlantic	5	Sub-Atlantic	5
Porella arboris-vitae	Sub-Atlantic	(5)	Sub-Atlantic	5
Ptychomitrium polyphyllum	Sub-Atlantic	(5)	Sub-Atlantic	5
Scapania gracilis	Sub-Atlantic	5	Sub-Atlantic	5
Tetrodontium brownianum	Sub-Atlantic	(5)	Sub-Atlantic	5
Ulota phyllantha	Sub-Atlantic	(5)	Sub-Atlantic	5
Zygodon conoideus	Sub-Atlantic	(5)	Sub-Atlantic	5
Bazzania trilobata	Western British	5	Western British	5
Cololejeunea calcarea	Western British	5	Western British	5
Dicranodontium denudatum	Western British	5	Western British	5
Frullania fragilifolia	Western British	(5)	Western British	5
Grimmia hartmanii	Western British	5	Western British	5
Metzeria conjugata	Western British	5	Western British	5
Nowellia curvifolia	Western British	5	Western British	5
Riccardia chamedryfolia	Western British	5	Western British	5
Riccardia palmata	Western British	5	Western British	5
Scapania compacta	Western British	5	Western British	5
Scapania umbrosa	Western British	5	Western British	5
Sphagnum quinquefarium	Western British	5	Western British	5
Thuidium delicatulum	Western British	5	Western British	5
Trichostomum tenuirostre	Western British	5	Western British	5
	Total:	**1045 +(645) =1690**	**Total:**	**1240**

Table 1: the bryophyte assemblage in Coedydd Nedd a Mellte at the time of Newton (1994), and a reassessment using the *Guidelines* of Hodgetts (1992) but with new records (species that had not been found on the site in 1994 are in parentheses) and revised statuses

Assessment using the revised Guidelines

Revision of the *Guidelines for Selection of Biological SSSIs* began in 2012, and production of a separate bryophyte chapter commenced in 2014. A full set of guidelines was not completed in time for the present report, but the following assessment uses the general principles being employed in the revision. Unlike the 1992 approach, when all oceanic, rare and scarce species were combined into a single score – encouraging comparisons to be made between sites as different as a dune system and an area of montane scree – the revised *Guidelines* compare 20 'ecologically coherent' assemblages, and then separately assess oceanic woodland and oceanic heath bryophytes. A score is derived by looking at the Nationally Rare and Nationally Scarce species that occur within a particular habitat on a site, and giving Nationally Rare species 6 points and Nationally Scarce species 3 points. Provisional selection thresholds have been worked out for each assemblage, and sites that meet those thresholds may be considered for SSSI notification. Three assemblages are present in Coedydd Nedd a Mellte SAC and the wooded parts of Dyffrynnoedd Nedd a Mellte a Moel Penderyn SSSI and Blaen Nedd SSSI: a woodland assemblage (score **30**, SSSI threshold 12 points) (Table 2), a limestone assemblage (score **18**, SSSI threshold 15 points) (Table 3) and a riparian assemblage (score **12**, SSSI threshold 15 points) (Table 4). The limestone assemblage scores in Table 3 are not full evaluations of either Dyffrynnoedd Nedd a Mellte a Moel Penderyn SSSI or Blaen Nedd SSSI because both sites also support unwooded limestone habitats that have not been fully surveyed. Nevertheless, the limestone bryophyte assemblage passes

the threshold, as does the woodland bryophyte assemblage. The riparian bryophyte assemblage is relatively impoverished compared with some rivers in north Wales.

Species	Status	Score
Anastrophyllum hellerianum	Nationally Scarce	3
Bartramia halleriana	Nationally Scarce	3
Brachydontium trichodes	Nationally Scarce	3
Daltonia splachnoides	Nationally Rare	6
Dicranum flagellare	Nationally Scarce	3
Jamesoniella autumnalis	Nationally Scarce	3
Rhytidiadelphus subpinnatus	Nationally Scarce	3
Sphenolobopsis pearsonii	Nationally Scarce	3
	Total:	**30**

Table 2: the woodland bryophyte assemblage in Coedydd Nedd a Mellte SAC

Species	Status	CNM Score	DNMMP Score	BN Score
Amblystegium confervoides	Nationally Scarce	3	3	3
Bryum torquescens	Nationally Scarce	3	3	
Platydictya jungermannioides	Nationally Scarce	3	3	
Seligeria acutifolia	Nationally Scarce	3	3	3
Seligeria donniana	Nationally Scarce	3	3	
Seligeria pusilla	Nationally Scarce	3	3	3
	Totals:	**18**	**18**	**9**

Table 3: the limestone bryophyte assemblage in Coedydd Nedd a Mellte SAC, with scores also split into the two component SSSI (CNM=Coedydd Nedd a Mellte SAC; DNMMP=Dyffrynnoedd Nedd a Mellte a Moel Penderyn SSSI; BN=Blaen Nedd SSSI)

Species	Status	Score
Campylopus subulatus	Nationally Scarce	3
Fissidens rivularis	Nationally Scarce	3
Fissidens rufulus	Nationally Scarce	3
Heterocladium wulfsbergii	Nationally Scarce	3
	Total:	**12**

Table 4: the riparian bryophyte assemblage in Coedydd Nedd a Mellte SAC

The SAC also needs to be assessed for its important assemblage of oceanic woodland bryophytes (score **26**, SSSI threshold 8 points) (Table 5), with points being scored for oceanic Nationally Rare and Scarce species and also by a suite of species that are characteristic of oceanic woodland but which are not Nationally Rare or Scarce. Because of the international importance of this assemblage, threatened (Red Listed) species score more points than their Nationally Rare/Scarce status would give in the other assemblage score. A site can support both a woodland assemblage and an oceanic woodland assemblage, and some species score for both (for example *Daltonia splachnoides*).

Species	Status	Score
Aphanolejeunea microscopica	Hyperoceanic	1
Breutelia chrysocoma	Hyperoceanic	1
Cololejeunea minutissima	Hyperoceanic	1
Colura calyptrifolia	Hyperoceanic	1
Daltonia splachnoides	Vulnerable	9
Drepanolejeunea hamatifolia	Hyperoceanic	1
Heterocladium wulfsbergii	Nationally Scarce	3
Jubula hutchinsiae	Hyperoceanic	1
Lejeunea lamacerina	Hyperoceanic	1
Lejeunea patens	Hyperoceanic	1
Lepidozia cupressina	Hyperoceanic	1
Plagiochila bifaria	Hyperoceanic	1
Plagiochila exigua	Hyperoceanic	1
Plagiochila punctata	Hyperoceanic	1
Plagiochila spinulosa	Hyperoceanic	1
Scapania gracilis	Hyperoceanic	1
Total:		**26**

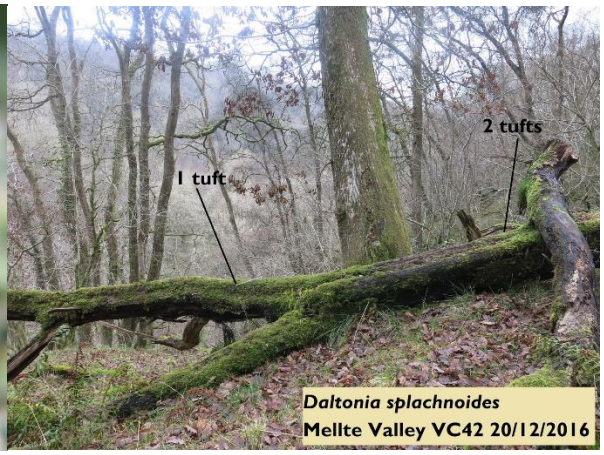
Table 5: the oceanic woodland bryophyte assemblage in Coedydd Nedd a Mellte SAC

5. Notable bryophytes of Coedydd Nedd a Mellte

Threatened species

Remarkably, only two Red-listed mosses and no Red-listed liverworts have been recorded in Coedydd Nedd a Mellte SAC.

- *Daltonia splachnoides* (GB Vulnerable, Nationally Rare, Section 7) was discovered new to Breconshire during the last days of the survey. It grows on a massive decorticated log at SN9219910422 on the upper western slopes of the Mellte valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr. The colony is far above the river and the waterfalls, and appears to be a casual occurrence (see discussion in the section on changes in species composition). Three tufts were noted on 20th December 2016 by SDSB, and a further five were located on the same log on 26th December by Barry Stewart when he 'twitched' the colony.



Figures 5 & 6: *Daltonia splachnoides* and the log on which it grew.

- *Rhytidiadelphus subpinnatus* (GB Near Threatened, Nationally Scarce) has one of its British hotspots in the valleys of the Nedd-fechan and Mellte. This

moss was thought to have declined catastrophically in Britain in the 20th century, and only one extant population was known in the early 2000s, but its identification and ecology have subsequently become much better understood (Bosanquet & Motley, 2009) and it is now known from more than 15 British sites. It is characteristic of the wooded valleys of relatively large rivers, and grows on steep banks above the typical flood level, including regular occurrences in vulnerable localities next to footpaths.

Figure 7: *Rhytidiadelphus subpinnatus*, photographed in the Nedd-fechan valley below Glan-rhyd.

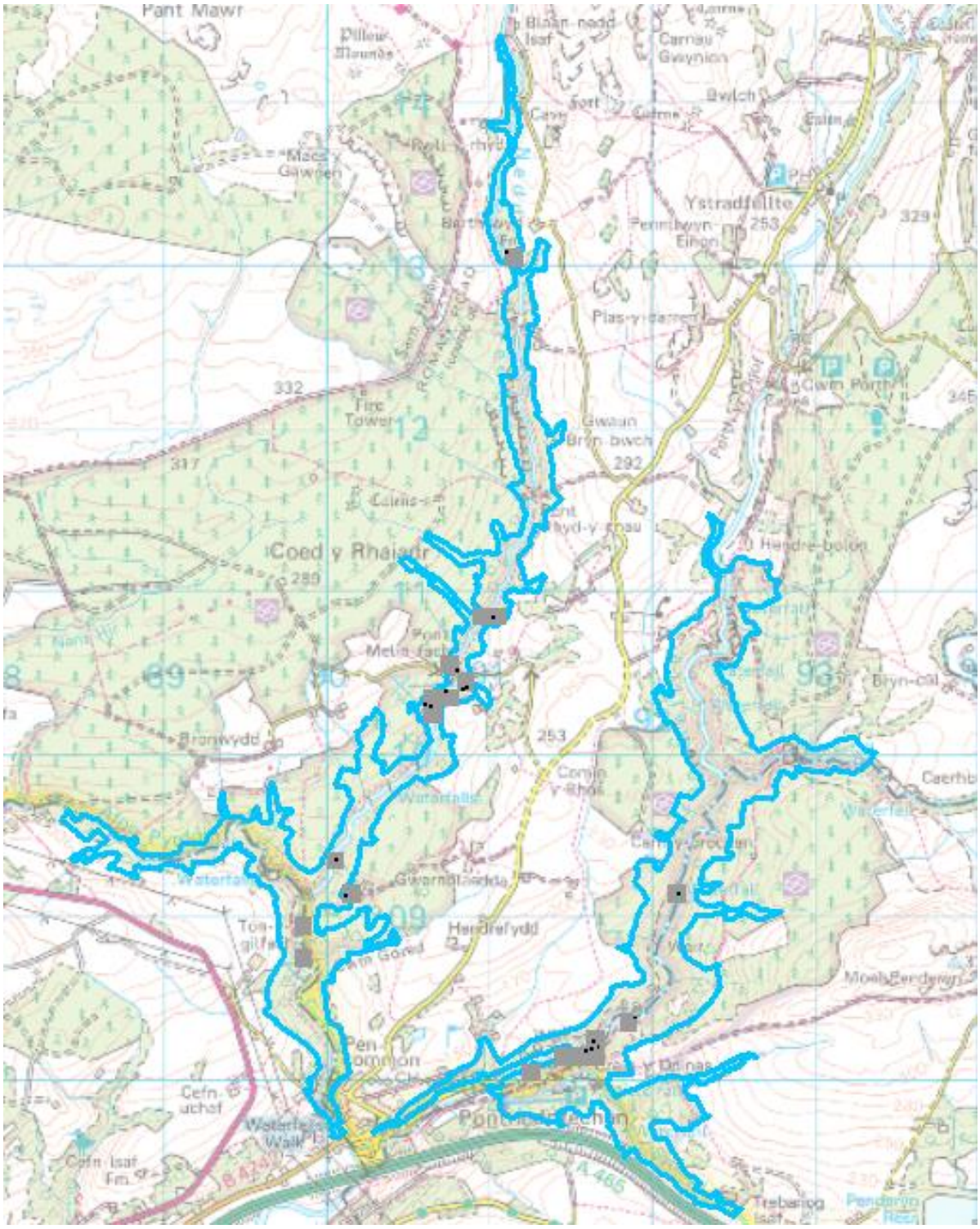


Figure 8: distribution of *Rhytidiadelphus subpinnatus* in Coedydd Nedd a Mellte SAC.

Nationally Rare & Scarce species

The most recent list of Nationally Rare and Scarce species was compiled by Pescott (2016) following the publication of the revised *Atlas of British and Irish Bryophytes*. Coedydd Nedd a Mellte SAC supports examples of three ecologically distinct assemblages: a woodland bryophyte assemblage, which is composed of bryophytes that grow on decorticated logs, tree trunks and non-limestone rock outcrops; a limestone bryophyte assemblage, which is composed of mosses and liverworts which grow directly on limestone; and a riverine assemblage, which is made up of species that require periodic inundation by flowing water. These assemblages are compared with others of their kind to allow the identification of the best examples of each assemblage in each Area of Search.

Woodland bryophyte assemblage

- *Anastrophyllum hellerianum* (Nationally Scarce) grows in woodland throughout the Nedd-fechan and Mellte valleys, as well as the lower Pyrddin and some tributaries. The majority of colonies are on living Oak trunks, often associated with algae that make the trunk appear black as well as a range of small mosses and liverworts. Some host trees overhang the river or are in the mist zone of waterfalls, but there are also notable concentrations of colonies just upslope of some waterfalls, for example on the central reach of the Nedd-fechan. When this species is present at low abundance on a tree trunk it is relatively easy to overlook, but its distinctive appearance was learned by GSM and SDSB early on in the survey. Large decorticated logs may also support *A. hellerianum*.

This species is characteristic of natural, old growth forest rather than managed stands in the Nordic Countries (Andersson & Hytteborn, 1991) and its local abundance in Coedydd Nedd a Mellte SAC is a good indication of the naturalness of the site's woodland. It has been recorded from 81 10x10m grid squares, using the method of Callaghan (2013) (Fig. 13). The population of *Anastrophyllum hellerianum* in Coedydd Nedd a Mellte is considered to be the largest in Wales by quite some way. Only two other locations in south Wales support this species: Nant Llech SSSI and the Garwnant Forest Centre.

Figures 9 to 12: *Anastrophyllum hellerianum* and three characteristic loci – Nedd-fechan below Glan-rhyd (top right), central Mellte (bottom left) and Hepste (bottom right).

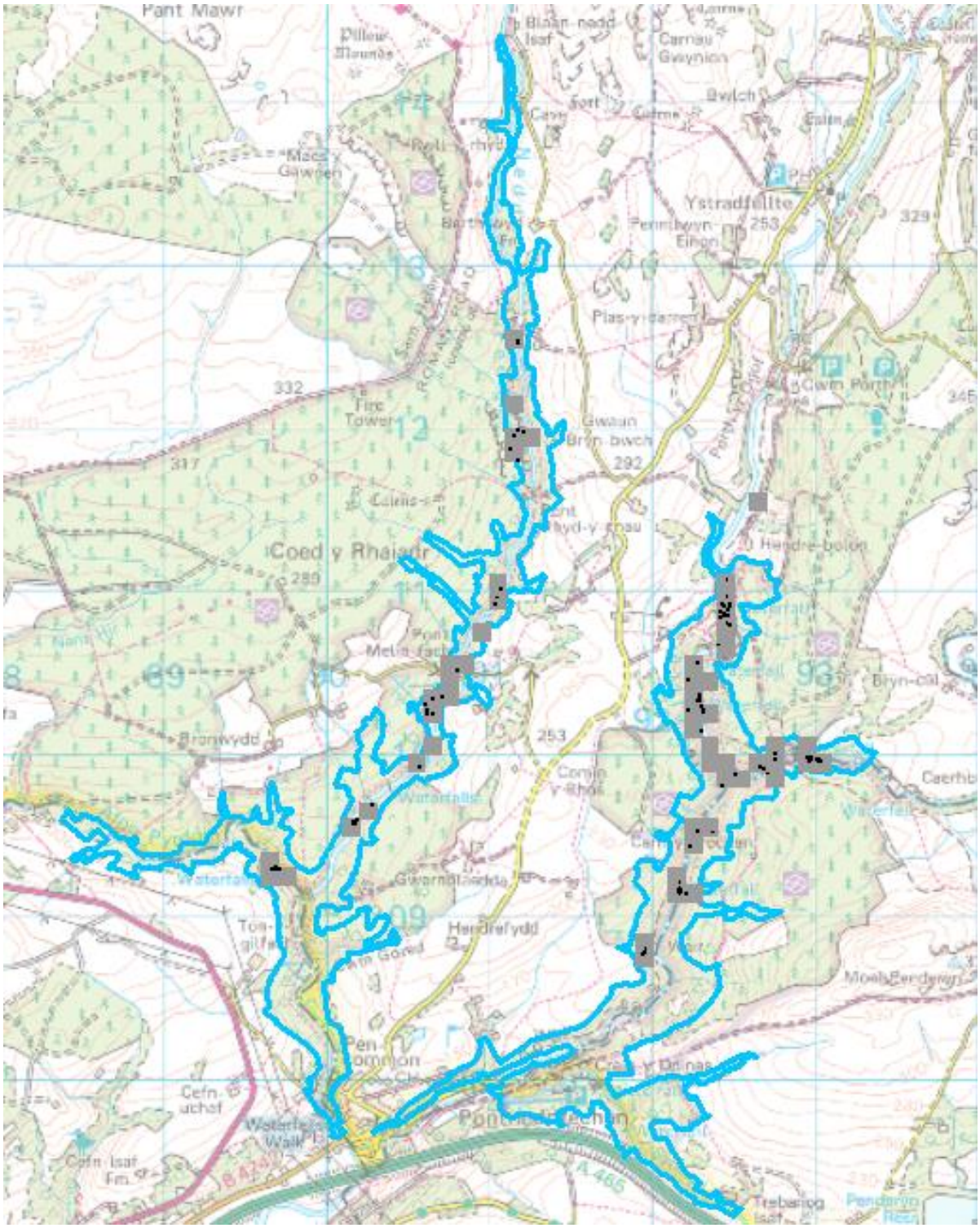


Figure 13: distribution of *Anastrophyllum hellerianum* in Coedydd Nedd a Mellte SAC.

- *Bartramia halleriana* (Nationally Scarce) was discovered on a north-east facing cliff between Sgwd Clun-gwyn and Sgwd Isaf Clun-gwyn by Martha Newton in 1992 and was relocated there by SDSB and GSM in 1999. This was the only know occurrence in the SAC until a small population was found by GSM on low crags just downstream of Pont Melin-fach. This species has a very patchy distribution in south Wales, being most frequent on some of the upland crags in the central Brecon Beacons.
- *Brachydontium trichodes* (Nationally Scarce) formed a 20cm strip in a vertical crevice in the crag above the Mellte east of Sgwd Isaf Clun-gwyn in November 2012. This tiny moss is frequent in the Brecon Beacons uplands, but this remains the only record from the SAC.
- *Daltonia splachnoides* (Nationally Rare) is discussed above as a Threatened Species.
- *Dicranum flagellare* (Nationally Scarce) was seen on the British Bryological Society excursion to Pont Melin-fach on 13th April 1984.
- [*Leiocolea heterocolpos* (Nationally Scarce) is listed twice in the BIS dataset. One record came from Nant-y-celyn on 24/4/1979 and the other from Cwm Gored on 25/2/1986. Both were attributed to Ray Woods, but neither is mentioned in Woods (2006) and it is highly likely that both result from mis-inputting of '*Loph het*' on an old liverwort list as *Lophozia heterocolpos* (now *Leiocolea heterocolpos*) rather than *Lophocolea heterophylla*. The habitat in both cwms is unsuitable for *L. heterocolpos*, although its occurrence elsewhere in the SAC is not impossible.]

- *Jamesoniella autumnalis* (Nationally Scarce) is widespread across the site, with a remarkably clustered distribution pattern (Fig. 18). The most notable hotspot is in woodland on the right bank of the Nedd-fechan downstream of Pont Melin-fach, where *J. autumnalis* forms extensive patches on many trees. Elsewhere it is found both on logs and on living trees, with records coming from Oak, Birch and Alder. This species is widespread in Wales, but is almost entirely restricted to SSSI woodland. There are records from 46 10x10m grid squares, which compares favourably with the total of 62 made in Coed Ganllwyd by Callaghan (2015).

Figures 14 to 17: *Jamesoniella autumnalis* and colonies on an oak trunk at Pont Melin-fach and a fallen tree trunk by the lower Mellte (bottom right photo by Barry Stewart).

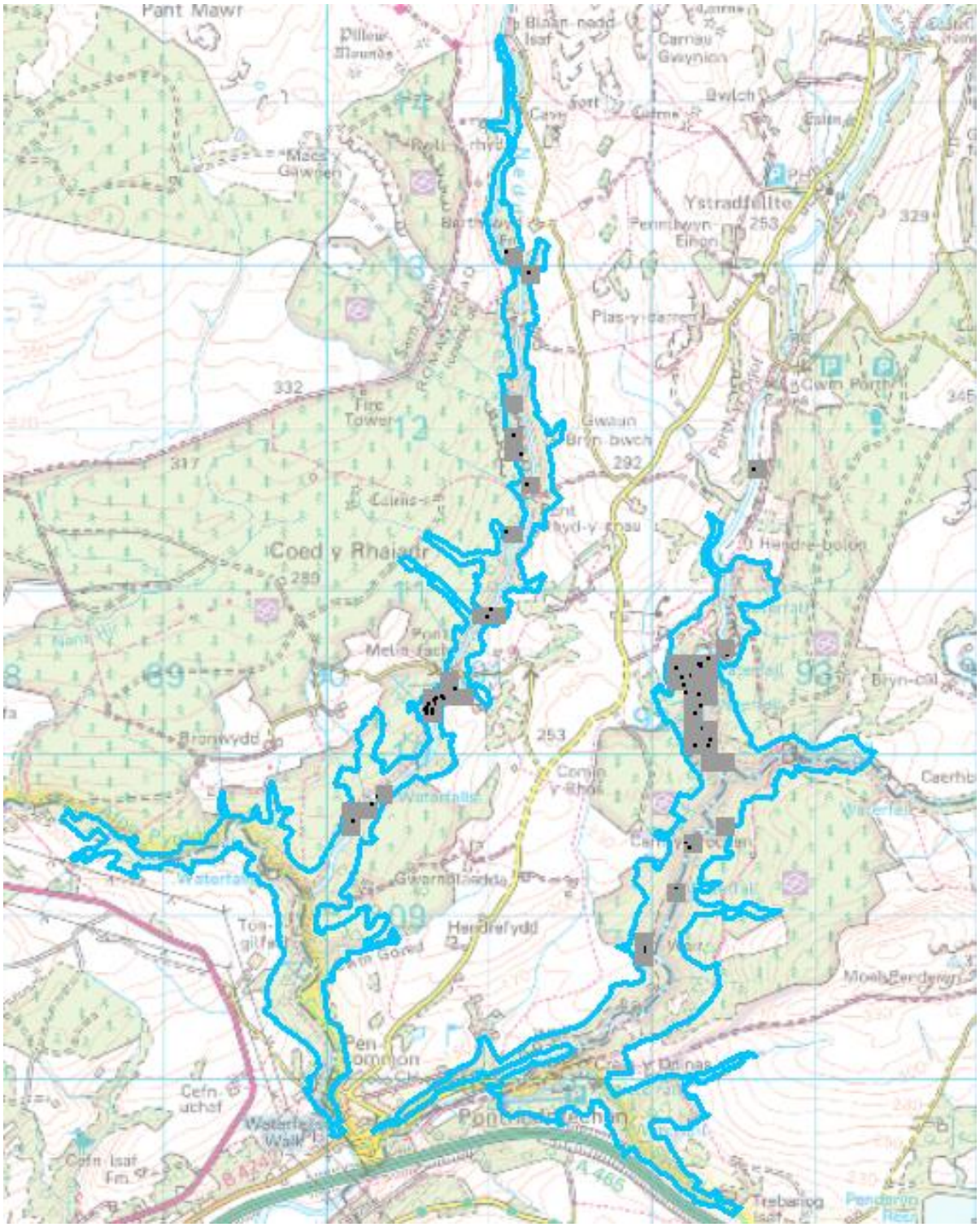


Figure 18: distribution of *Jamesoniella autumnalis* in Coedydd Nedd a Mellte SAC.

- *Rhytidiadelphus subpinnatus* (Nationally Scarce) is discussed above as a Threatened Species.
- *Sphenolobopsis pearsonii* (Nationally Scarce) grows in reasonable abundance on a rock face in the mist zone of Sgwd yr Eira on the Hepste, where it was discovered by Martha Newton in 1992. When the population was relocated in 2017 it appeared very dry and rather moribund. This is the southernmost British locality, and the nearest populations are in north-eastern Carmarthenshire.

Figures 19 & 20: *Sphenolobopsis pearsonii* and the colony location in 2017.

Limestone bryophyte assemblage

- *Amblystegium confervoides* (Nationally Scarce) (Fig. 21) grows tightly appressed to limestone stones that are partially embedded in the woodland floor. It has been found three times in the upper Nedd-fechan valley between Dyffryn Nedd and Porth y Rhyd, and also grows close to the SAC/SSSI at Porth yr Ogof in the Mellte valley. It is easily overlooked, but has not yet been found at Craig y Ddinas despite conscious searching.

- *Bryum torquescens* (Nationally Scarce) was confirmed microscopically from a collection made during a brief stop on a ledge above the Craig y Ddinas quarry.
- [*Pedinophyllum interruptum* (Nationally Scarce) was supposedly found during the BBS visit to the upper Nedd-fechan in 1984, but the only specimen collected was found to be a *Plagiochila*. Nevertheless, the habitat within the limestone ravines is ideal for *Pedinophyllum*, and since its recent discovery at Craig y Cilau in south-eastern Breconshire it should be borne in mind as potentially present in Coedydd Nedd a Mellte.]
- *Platydictya jungermannioides* (Nationally Scarce) (Fig. 22) is of similar stature to *Amblystegium confervoides*, but forms wefts in rock crevices rather than growing on embedded stones. It was recorded new to the Dyffrynnoedd Nedd a Mellte SSSI in 2016 below Dyffryn Nedd farm, where its grew in horizontal crevices at the foot of limestone outcrops, but had been found previously just upstream of the SSSI boundary on the Mellte.


Figures 21 & 22: *Amblystegium confervoides* and *Platydictya jungermannioides* at Dyffryn Nedd (photos by Barry Stewart).

- *Seligeria acutifolia* (Nationally Scarce) appears to be the most abundant of the three strongly calcicolous *Seligeria* (Fig. 25) in the two SSSI, although several *Seligeria* colonies lacked sporophytes and could not be identified to species. It typically grows on seeping limestone, especially ravine sides (Figs. 23 & 24), and has been noted at four locations on the Nedd-fechan limestone where it is locally abundant at Berthllwyd Gorge and below Dyffryn Nedd; two localities on limestone around Craig y Ddinas and the Afon Sychryd; and once on calcareous sandstone on the lower Hepste falls.
- *Seligeria donniana* (Nationally Scarce) grows alongside *S. acutifolia* on dripping limestone ravine sides below Dyffryn Nedd and on damp limestone by the Afon Sychryd. It has also been noted on limestone pebbles below Craig y Ddinas in the Mellte valley, although most *Seligeria* on these embedded pebbles were not fruiting and could not be identified to species.
- *Seligeria pusilla* (Nationally Scarce) is occasional around Craig y Ddinas and locally frequent in the Berthlwyd Gorge, occupying damp limestone crevices on both sites.

Figures 23 & 24: the habitat of *Seligeria* species at Dyffryn Nedd (RH photo by Charles Hipkin).

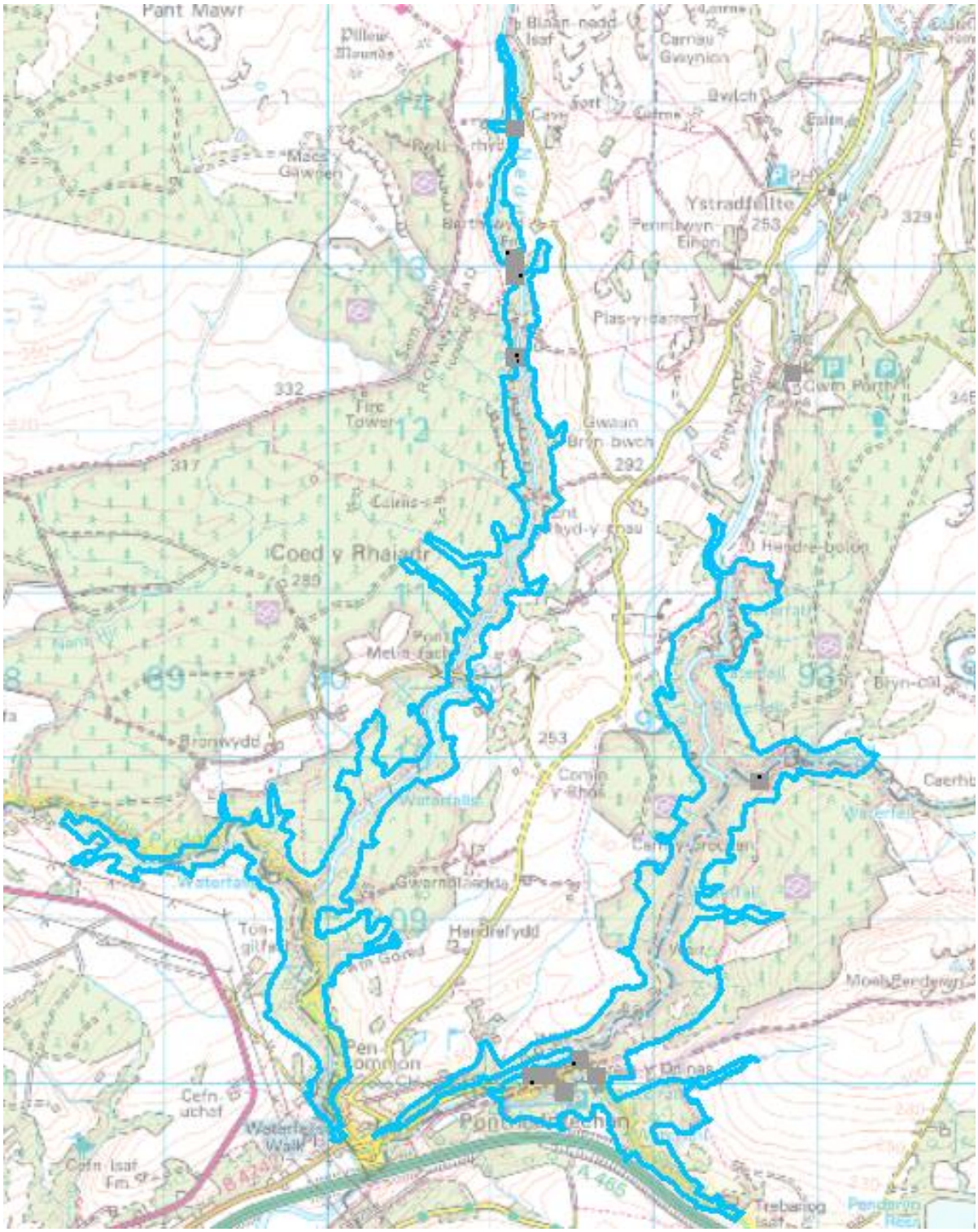


Figure 25: distribution of *Seligeria acutifolia*, *S. donniana* and *S. pusilla* in Coedydd Nedd a Mellte SAC.

Riverine bryophyte assemblage

- *Campylopus subulatus* (Nationally Scarce) grows in crevices on rock shelves by the Afon Mellte at Sgwd Isaf Clun-gwyn and by the Nedd-fechan upstream of Pontneddfechan. It is likely this subtle moss has been missed elsewhere on the site, as GSM and SDSB spent little time on riparian rocks over the last 10 years because of good coverage by Newton and Hodgetts. Elsewhere in Wales it is locally abundant on tracks in conifer plantations.
- *Fissidens rivularis* (Nationally Scarce) (Fig. 26) has been recorded from the lower and central sections of the Nedd-fechan and the lower Mellte and has also been found in some side streams. It mainly grows on permanently submerged rocks, or those which are exposed for only a few weeks a year.
- *Fissidens rufulus* (Nationally Scarce) (Fig. 26) appears to be more widespread than *F. rivulare* on the site, being recorded from all sections of the Mellte, Nedd-fechan and also the Hepste, where it grows on submerged rocks. Its presence is likely to be influenced by the presence of limestone in the upper reaches of these rivers, because both *F. rufulus* and *F. rivularis* favour base-rich or neutral water. Breconshire has a large proportion of the Welsh population of *F. rufulus*.
- *Heterocladium wulfsbergii* (Nationally Scarce) was only recognised as a British species within the last decade or so, but has been found to favour fast-flowing rivers in north-western Britain. The only Breconshire records are from a few sites in the north of the county and from Coedydd Nedd a Mellte in the south. It was recorded on the Mellte by Nick Hodgetts.

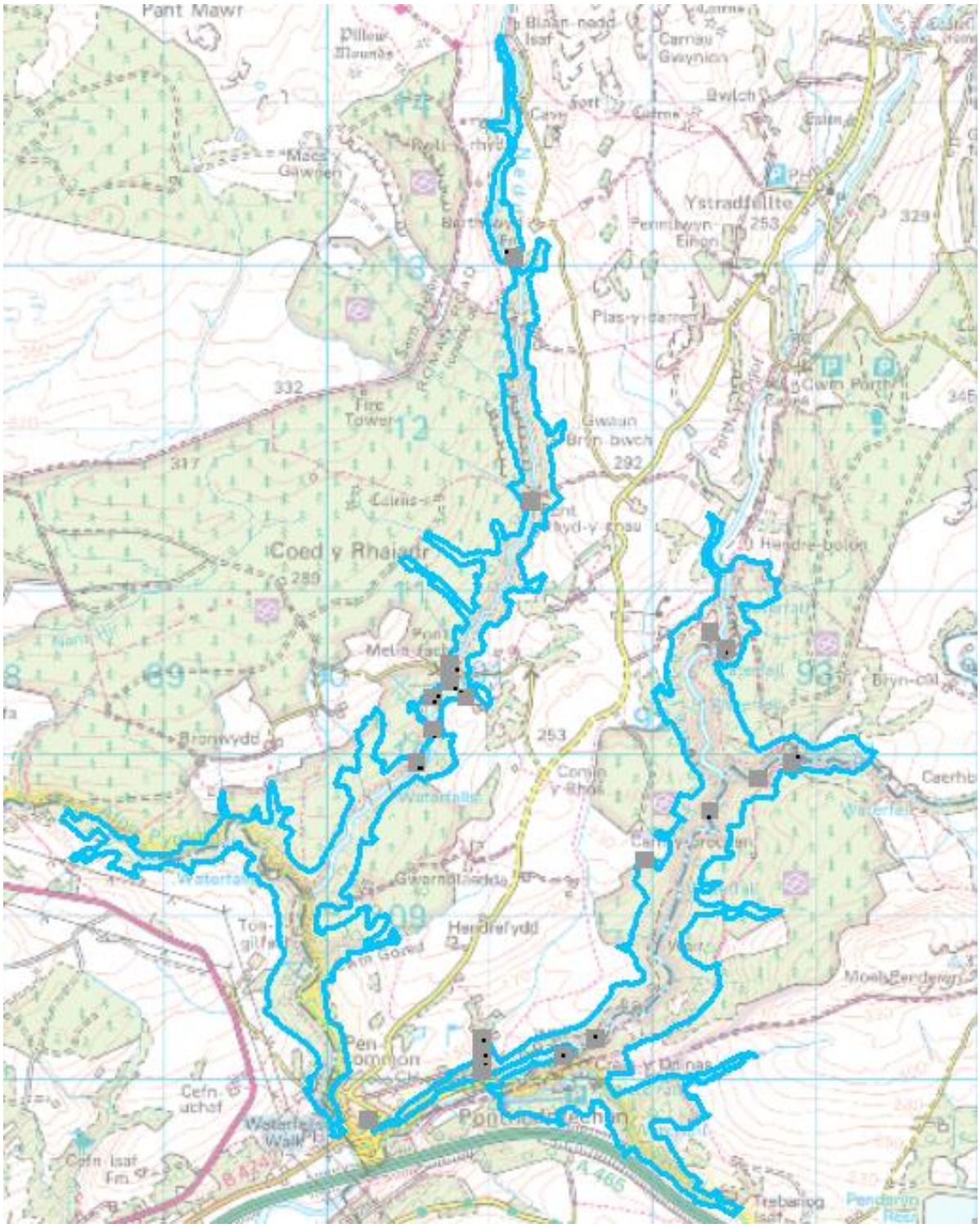


Figure 26: distribution of *Fissidens rivularis* and *F. rufulus* in Coedydd Nedd a Mellte SAC.

Oceanic/Atlantic species

Oceanic woodland bryophyte assemblage

The biogeographic categories of Hill & Preston (1998) are being used in the revised *Guidelines for Selection of Biological SSSIs* to identify bryophytes that show hyperoceanic and oceanic distributions in Europe and are therefore restricted to the western seaboard. These are broadly similar to the Strictly Atlantic and Atlantic categories of Hodgetts (1992), but with some differences.

- *Aphanolejeunea microscopica* (Hyperoceanic) (Fig. 27) was a surprise find near Sgwd Gwladus in 2010, particularly because it was on the Glamorgan bank of the Afon Pyrddin and there were at that stage no records from Breconshire. Detailed examination of riverside trees on the Breconshire bank of the Pyrddin in 2016 revealed a strong population spanning 7 10x10m squares, whilst searching upstream in the Nedd-fechan valley produced an additional 4 localities. This species remains unknown in the Mellte valley, but was found in abundance on a riverside *Salix* in the Hepste valley in 2017, with a single patch on a nearby boulder. With the exception of a few patches on an oak in the middle of the path to the Pyrddin (Fig. 28), all of the populations of *Aphanolejeunea* are on trees adjacent to cascades or in the extensive mist zone of Sgwd Gwladus. Some typical localities are illustrated in Figures 29 to 32, and it is mapped in Figure 33.
- *Breutelia chrysocoma* (Hyperoceanic) primarily occurs in non-wooded habitats in western Britain and is not considered here as a true part of the

woodland bryophyte assemblage. It has been recorded only in the Pyrddin valley, where it grows on a damp sandstone crag by Sgwd Gwladus.

Figures 27 to 32: *Aphanolejeunea microscopica* and four typical loci – Nedd-fechan below Glan-yr-afon (top left), Nedd-fechan upstream of Pyrddin (top right), Pyrddin downstream of Sgwd Gwladus (bottom left, photo Charles Hipkin) & Nedd downstream of Pyrddin (bottom right).

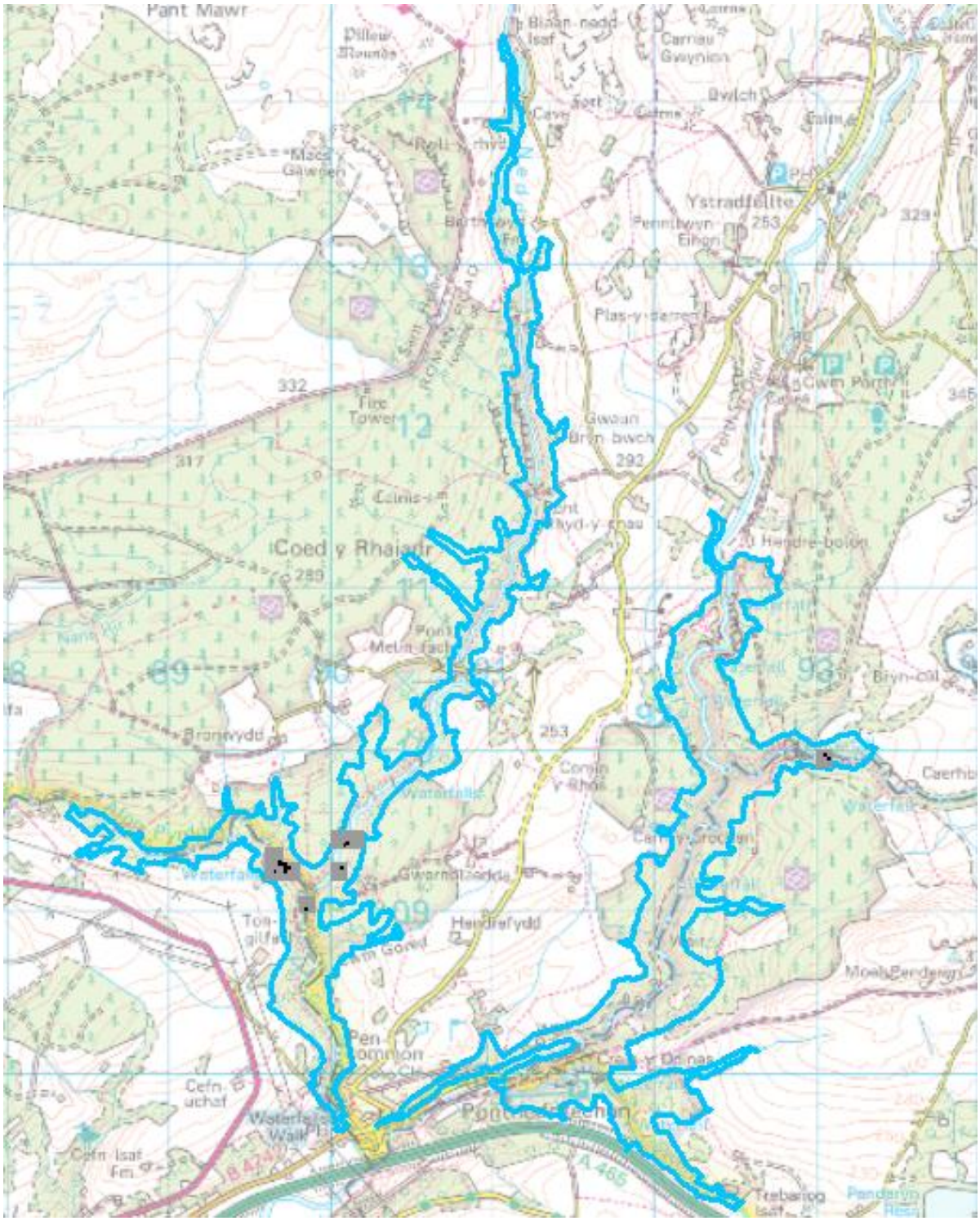


Figure 33: distribution of *Aphanolejeunea microscopica* in Coedydd Nedd a Mellte SAC.

- *Cololejeunea minutissima* (Hyperoceanic) has spread rapidly through Britain in recent decades and is now widespread in Wales. There are only a handful of records for the SAC, but it is likely to be present quite widely in *Salix* scrub close to the coniferised margins of the site.
- *Colura calyptrifolia* (Hyperoceanic) was first recorded along the lower Nedd-fechan by Martha Newton in 1994, and was seen as a really significant record. At this time, it was known to be a strongly Hyperoceanic liverwort, more or less confined to the western seaboard of Britain and Ireland. In the past 20 years or so, and for reasons not fully understood, *Colura* has expanded its range in Britain, with many additional records from sheltered pockets of broadleaved woodland and scrub located within commercial conifer plantations. Newton's colony was relocated by SDSB and GSM in 1999, but it was clearly struggling to survive; no more records came until late 2015, but the species is now known from hazel, ash, oak and gorse at scattered localities in the Nedd-fechan, Melte and Sychryd valleys. The low number of records within the oak woodland of Coedydd Nedd a Mellte SAC is surprising, especially since it occurs in some abundance within the conifer plantations adjoining the SAC.
- *Daltonia splachnoides* (Hyperoceanic) is discussed above as a Threatened species.
- *Drepanolejeunea hamatifolia* (Hyperoceanic) (Fig. 34) was recorded new to Breconshire and the Coedydd Nedd a Mellte SAC as recently as October 2016, yet it has turned out to be slightly more widespread in the survey area

(Fig. 38) than the ecologically similar *Aphanolejeunea microscopica*. There are two colonies on ash by the Nedd-fechan – one adjacent to a cascade on the main river (Fig. 30) and another by a cascading side stream (Fig. 35) – and two on ash and hazel by the Mellte – one downstream of Sgwd y Pannwr (Fig. 37) and the other in the mist zone of a side stream below Sgwd Clun-gwyn (Fig. 36). One shoot was spotted growing through a patch of *Aphanolejeunea* on a willow by a cascade on the Hepste.

Figures 34 to 37: *Drepanolejeunea hamatifolia* and three typical loci – upstream of Pont Melin-fach (top right), downstream of Sgwd Clun-gwyn (bottom left) & downstream of Sgwd y Pannwr (bottom righ).

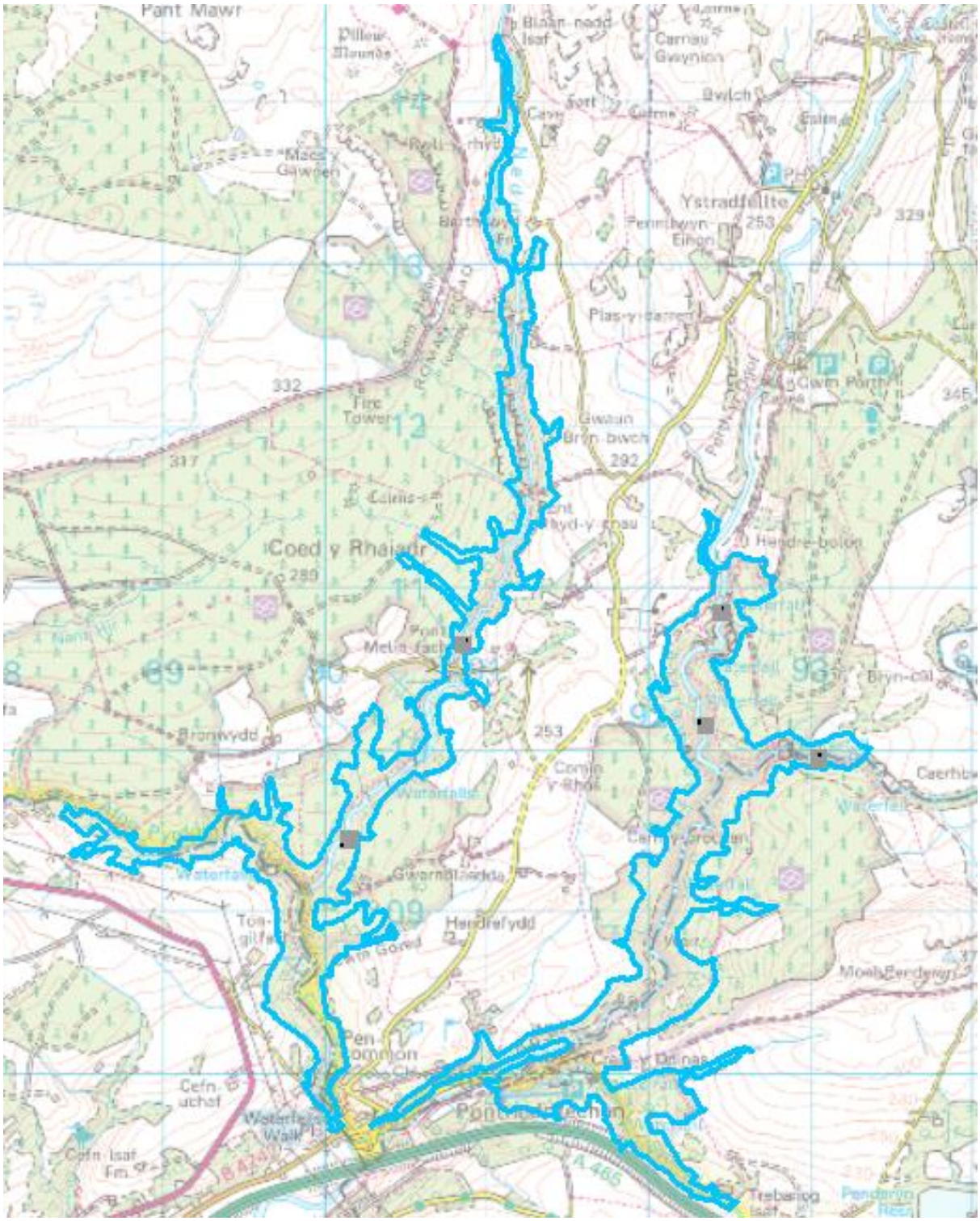


Figure 38: distribution of *Drepanolejeunea hamatifolia* in Coedydd Nedd a Mellte SAC.

- *Heterocladium wulfsbergii* (Oceanic) is discussed above as a Threatened species.
- *Jubula hutchinsiae* (Hyperoceanic) has only three recorded Breconshire localities, and 2014 *The Atlas of British and Irish Bryophytes* gives the impression that it is rather rare in south-central Wales, at least compared with Carmarthenshire and Pembrokeshire. The only locations in the Waterfalls area are Nant-y-celyn near Pontneddfechan and a side stream of the Mellte above the Gunpowder Works. At both it occurs on shaley rocks alongside a narrow, cascading stream, probably where there is some seepage from the ravine side, as is usually the case in West Wales.
- *Lejeunea lamacerina* (Hyperoceanic) is scattered on rocks in side-streams of the major rivers, and also grows on flushed rock faces. This is a frequent streamside liverwort in most of Wales.
- *Lejeunea patens* (Hyperoceanic) has been recorded from a few sites in the valleys of the Nedd-fechan and Mellte, but is very much rarer in the SAC than the lookalike *L. cavifolia*. Many patches of *Lejeunea* in waterfall mist zones were collected for microscope checking and proved to be *L. cavifolia*: it is unsafe to record *L. patens* in the SAC without checking the oil bodies.
- *Lepidozia cupressina* (Hyperoceanic) (Figs 40 & 41) occurs at only a handful of sites in the southern part of Wales, and is usually present as just a few patches. It is locally abundant amongst block scree and on the floor of birch-oak woodland on west-facing slope above Sgwd y Pannwr (SN923104), where there are several hundred separate patches,

representing the largest known population in the southern half of Wales. It has been noted in 15 different 10x10m squares of the national grid (*i.e.* different 8-figure Grid References), and extends across a 125x40m area (Fig. 39).

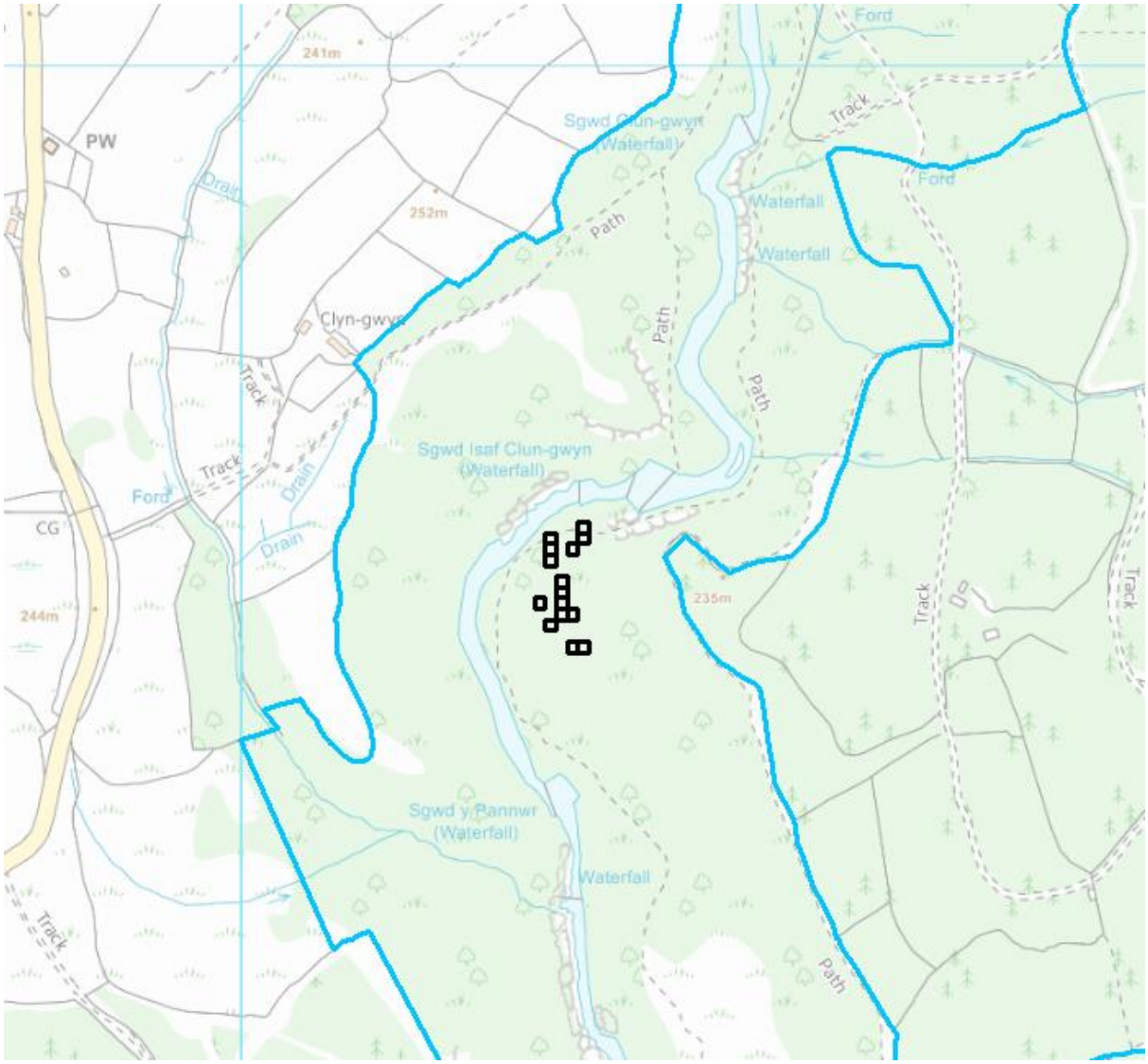


Figure 39: distribution of *Lepidozia cupressina* in the Mellte valley.

Figures 40 & 41: *Lepidozia cupressina* in the Mellte valley.

- *Plagiochila bifaria* (Hyperoceanic) plays two contrasting roles in the SAC, reflecting its habitat usage elsewhere in Wales: some colonies are on clifftops (Fig. 43) or crags, including an exposed one above the Mellte near the Gunpowder Works, whilst others are on riverside trees in mist zones (Fig. 42). This species was unrecorded in Breconshire until 2002, so the 14 colonies scattered around Coedydd Nedd a Mellte are doubly notable. It is difficult to explain how *P. bifaria* was overlooked by previous visitors, although it was poorly understood in Britain until the 1980s.

Figures 42 & 43: two localities for *Plagiochila bifaria* – Hepste (left) and Nedd-fechan (right).

- *Plagiochila exigua* (Hyperoceanic) occurs in two locations on the Nedd-fechan. It was first discovered upstream of Pont Melin-fach, where a few patches grow on a highly calcareous outcrop of the Coal Measures, with *Neckera crispa* growing alongside, and was subsequently found on a *Fraxinus* in the mist zone of a waterfall below Glan-rhyd, alongside *P. bifaria* (Fig. 61). A third colony was located in 2017 on the base of an Ash in the mist zone of Sgwd yr Eira, on the Hepste. These are the most southerly UK sites for this species, the next nearest locality being some 40km to the north in the Cambrian Mountains.
- *Plagiochila punctata* (Hyperoceanic) is primarily recorded from the central Nedd-fechan and upper Mellte, where small populations occur mainly on acid rock outcrops, but also on oak and birch trunks. The largest colony is on clifftop oaks upstream of Pont Melin-fach, although *P. punctata* is also locally frequent in the birch-dominated scree woodland between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr. A tiny patch was noted by the Hepste.
- *Plagiochila spinulosa* (Hyperoceanic) is locally frequent in the Nedd-fechan valley and rare elsewhere in the SAC (Fig. 44). Its strongest population is on west-facing rock outcrops in the Glan-yr-afon section of the Nedd-fechan, where some patches extend over 3x3m and where *Hymenophyllum tunbrigense* is a constant associate. Colonies elsewhere tend to be very small. This is one of the most regular components of the Atlantic bryophyte assemblage of north and mid Wales, and its patchy distribution in Coedydd Nedd a Mellte SAC is probably a reflection of past clearfelling of some units.

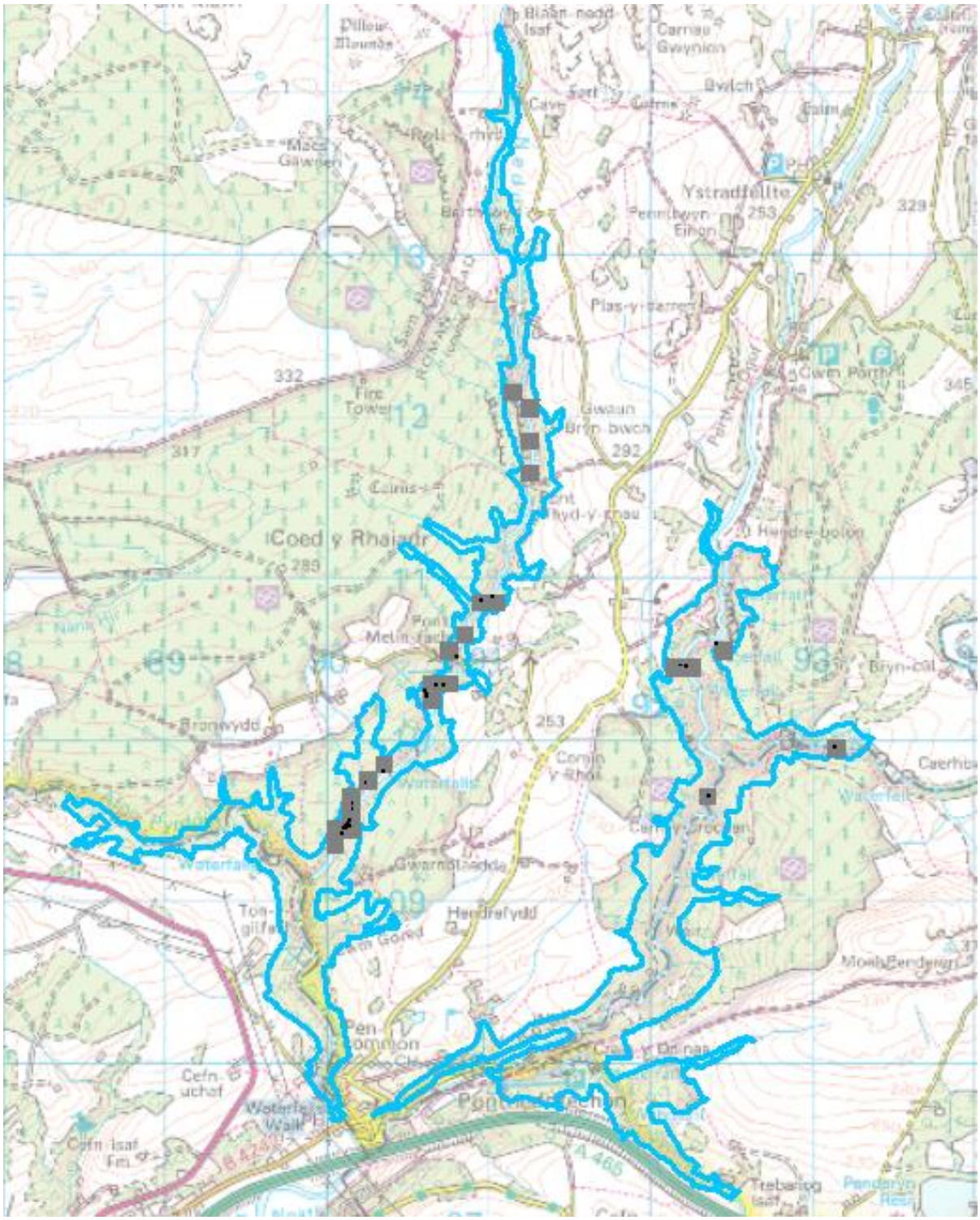


Figure 44: distribution of *Plagiochila spinulosa* in Coedydd Nedd a Mellte SAC.

- *Scapania gracilis* (Hyperoceanic) is locally abundant on tree trunks and rock outcrops in some sections of both the Nedd-fechan and Mellte Valleys. There are concentrations of records at Glan-yr-afon and Pont Melin-fach, as is the case with *Plagiochila spinulosa*, but it is also widespread in the Mellte valley whereas *P. spinulosa* is rare there. This suggests that the gemma-producing *S. gracilis* may be better able to recolonise woods after clearfelling than the non-gemmiferous, non-fruiting *P. spinulosa* is.

The Atlantic bryophyte assemblage of Hodgetts (1992)

The revised SSSI guidelines use a shorter list of indicator species for Atlantic habitats than Hodgetts (1992). A few of the species that are no longer used as indicators are nevertheless of interest because of their abundance or presence in Coedydd Nedd a Mellte; these are discussed below. Others, such as *Calypogeia arguta* and *Hookeria lucens*, are too frequent to warrant discussion.

- *Isothecium holtii* (Strictly Atlantic) has been recorded from a few rocks in the flood zone of the central part of the Nedd-fechan, from the top of a boulder by the Nedd, and from a periodically-inundated *Fraxinus* base by the Pyrddin. This moss is mainly found in the western parts of Britain, where it can be locally abundant in oceanic ravines. It is surprising that there are only three records from the site as there is much suitable habitat, but it may have been overlooked as *Thamnobryum alopecurum*.
- *Marchesinia mackaii* (Strictly Atlantic) is locally abundant in limestone ravines in south-east Wales, but is absent from similar-looking limestone

gorge habitats along the Sychryd and upper Nedd-fechan. Instead, it occurs on hard rocks of the Coal Measures by the Nedd on the Glamorgan side of the river near Pontneddfechan. It also occurs in small quantity on similar rock type at the nearby Nant Llech SSSI.

- *Tetrodontium brownianum* (Sub-Atlantic) is abundant on a sheltered shale outcrop in a side ravine of the Mellte just upstream of the Gunpowder Works, where it grows both on vertical rock and downwards from overhangs. It was also noted by Newton (1994) by the Pyrddin and the upper Mellte.

Figures 45 & 46: *Tetrodontium brownianum* in the Mellte valley and *Bazzania trilobata* by the Nedd-fechan.

- *Bazzania trilobata* (Western British) is unaccountably scarce within Coedydd Nedd a Mellte, where it is found on hard acid rock outcrops, mainly along the central Nedd Fechan, with one record from the Mellte valley. It is possible that this very patchy distribution reflects a poor dispersal ability, and that the extant colonies survived past forest clearances. Several of the colonies are closely associated with filmy ferns.

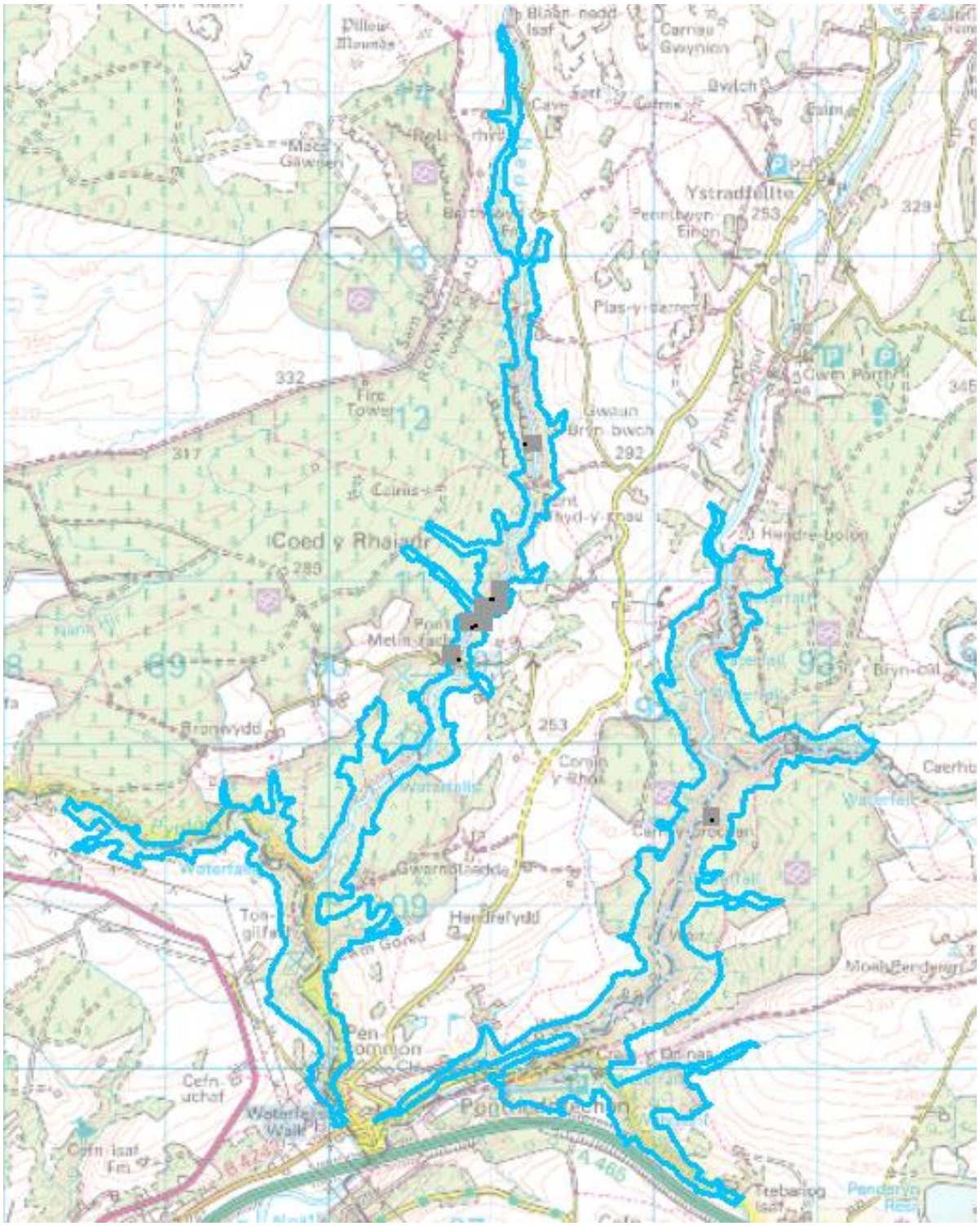


Figure 47: distribution of *Bazzania trilobata* in Coedydd Nedd a Mellte SAC.

- *Cololejeunea calcarea* (Western British) is more-or-less confined to hard limestone but may occur on other rock types which are highly calcareous. It is mostly found in gorges in south Wales, with a few records from upland crags in the central Brecon Beacons. In the SAC it has only been recorded in deep limestone gorges of the central and upper sections of the Nedd-fechan. The population here is one of the strongest in south Wales, with only the Clydach gorge near Abergavenny and the lower Wye gorge near Chepstow holding similar quantities. It also occurs just outside the SAC on the Mellte downstream of Porth yr Ogof.
- *Dicranodontium denudatum* (Western British) (Fig. 48) has been recorded from most of the river valleys at the site, but has a rather patchy distribution being abundant in some areas, such as just to the north of the Gunpowder Works on the Mellte, and absent from others with seemingly suitable habitat. It is mainly found on trees stumps and rotting logs.

Figures 48 & 49: *Dicranodontium denudatum* (left, photo Charles Hipkin) and *Frullania fragillifolia* (right) colonies in the Mellte valley.

- *Frullania fragilifolia* (Western British) (Fig. 49) is present alongside *F. tamarisci* and *Plagiochila bifaria* on an exposed cliff high above the Mellte, downstream of the Gunpowder Works. This is a similar habitat to that used at some localities in north-eastern Carmarthenshire and north Wales.
- *Grimmia hartmanii* (Western British) (Figs. 50 & 51) has been recorded from all the main river valleys apart from the Sychryd. It usually grows on rocks or large boulders in and by the rivers, which are only rarely or occasionally inundated. It has also been noted on rocks occasionally splashed by water from cascades and small waterfalls. The local abundance of this moss is notable, particularly in the context of south Wales where it is uncommon, although it is similarly abundant at a number of sites in north Wales (SDSB pers. obs.).

Figures 50 & 51: *Grimmia hartmannii* in the central Mellte, with gemmae and falcate leaves.

- *Riccardia palmata* (Western British) (Fig. 52) is a deadwood specialist, most common in Britain in western Scotland and only thinly distributed in south Wales. Despite abundant seemingly suitable habitat it is relatively scarce in the SAC, although it is widely scattered and can be locally abundant

- *Scapania umbrosa* (Western British) is very rare in south Wales, and is patchily distributed even in north Wales. The only records within the SAC come from visiting surveyors: Martha Newton recorded it in the Nedd-fechan valley and Nick Hodgetts saw it on a rotten log near Sgwd y Pannwr in the Mellte valley. It has possibly been overlooked elsewhere due to the abundance of *S. gracilis* and *S. nemorea*, and small forms of the latter can be particularly confusing.


Figures 52 & 53: *Riccardia palmata* and *Sphagnum quinquefarium* (photo Charles Hipkin) in the Mellte valley.

- *Sphagnum quinquefarium* (Western British) (Fig. 53) is widespread in all five major river valleys in the SAC, but is exceedingly localised. It grows on steep banks below oak woodland, sometimes with *S. fimbriatum* and *S. subnitens*. Like *Bazzania trilobata* and *Plagiochila spinulosa*, this species may be indicative of continued woodland cover, although the colonies in the lower/middle Hepste and on the Glamorgan side of the Pyrddin near its confluence with the Nedd-fechan, are close to areas that were clearfelled in the mid 20th century (see Distribution patterns, below).

Other bryophytes of interest

A number of moss and liverwort species that have been recorded within the SAC are noteworthy despite not playing a role in the SSSI assessment discussed above. Brief notes on these are presented below.

- *Blepharostoma trichophyllum* is rather sparsely distributed in south Wales and is often regarded as an 'axiophyte': a plant that grows in species-rich places but is not in itself rare or scarce. Despite being such a small liverwort, it was regularly encountered throughout the SAC, usually growing amongst other bryophytes on oak trees, rock ledges and rotting logs. In some localities, such as on Ash trunks overhanging the Pyrddin downstream of Sgwd Gwladus, it can be remarkably abundant.
- *Campylium stellatum* var. *protensum* occurs on dry but shaded limestone outcrops in the Craig y Ddinas area. There are relatively few other records from Breconshire, where var. *stellatum* is much more frequent.
- *Cephalozia catenulata* was first recorded in the area in 1906, and is still locally frequent, particularly along the Hepste, Mellte and Sychryd. This distribution contrasts with species such as *Plagiochila spinulosa*, which are commoner in the Nedd-fechan valley. In a few areas, for example in a side valley upstream of the Mellte Gunpowder Works, it is abundant on many logs. It is a member of a group of bryophytes that colonises rotting tree trunks and logs, and was considered to be Nationally Scarce until the revision of Pescott (2016). Its local abundance in Coedydd Nedd a Mellte is a good indication of the continuity of woodland cover within the valleys.

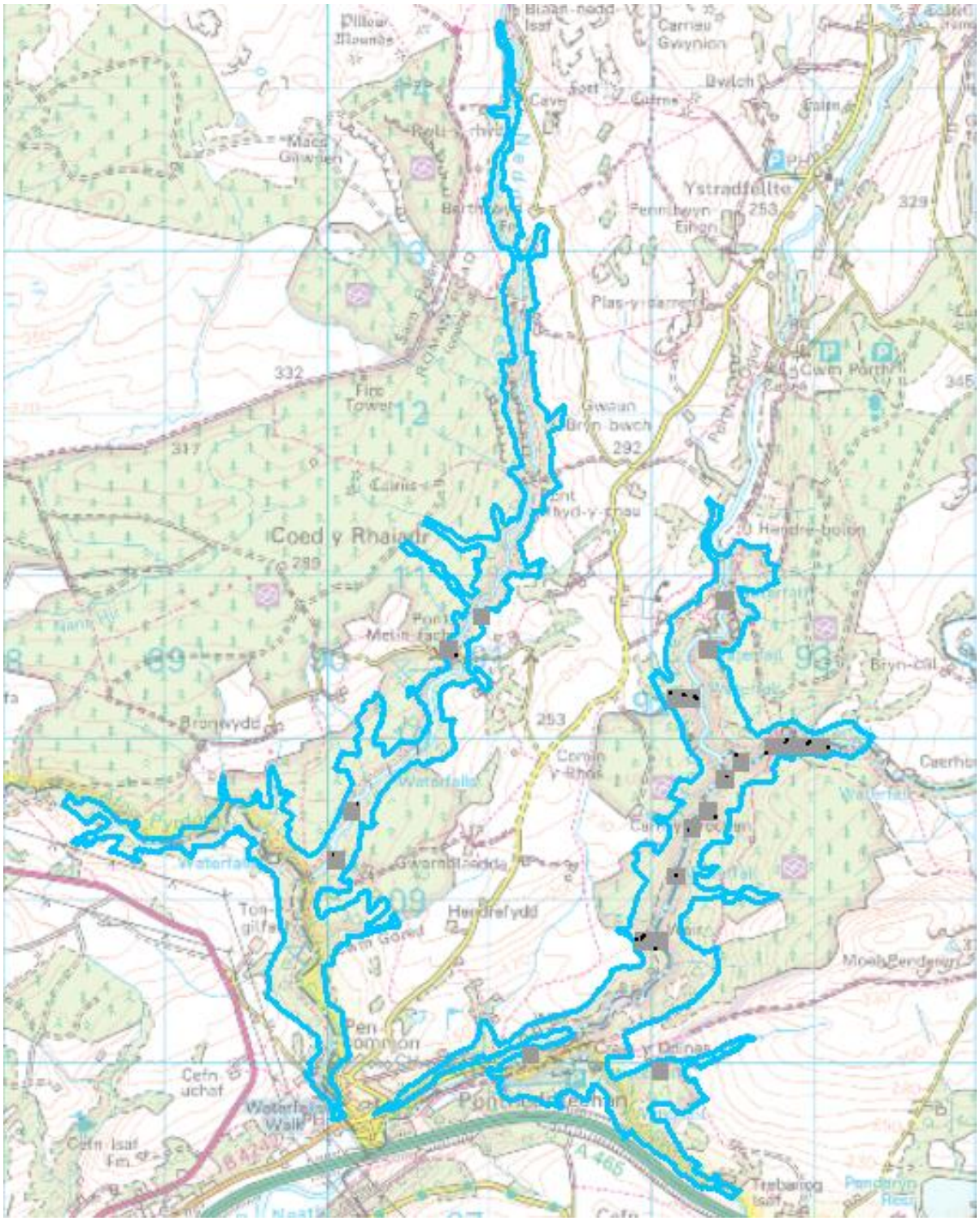


Figure 54: distribution of *Cephalozia catenulata* in Coedydd Nedd a Mellte SAC.

- *Dichodontium flavescens* tends to grow in periodically inundated areas by rivers, particularly where sandy/gritty silts are deposited when water levels are high. It is only readily separated from *D. pellucidum* when fruiting, is therefore likely to be under-recorded, and is no longer considered nationally notable. It has been noted at several localities within the site.
- *Dicranum fuscescens* forms large cushions on both trees and rock outcrops and has mainly been recorded from the Nedd-fechan valley. There are few records from Breconshire, although it is undoubtedly under-recorded in the north of the county.
- *Dicranum montanum* is an uncommon species in Wales, with few Breconshire records. It was recorded from the Mellte valley by Newton in 1984 and by SDSB in 2016, and in the Hepste valley by SDSB and GSM in 2017; it may have been slightly overlooked, although the species prefers less oceanic conditions. It has a similar British distribution to *D. flagellare* and is also a species of decaying wood.
- *Dicranum tauricum* is also uncommon in Wales, preferring the drier climate of eastern England and the Midlands. The only records from the site were made by Newton in 1994 when she noted it on fallen branches in oak woodland in Cwm Gored, a side valley of the Nedd near Pontneddfechan. It has similar habitat preferences and British distribution to *D. flagellare* and *D. montanum*.
- *Distichium capillaceum* (Fig. 55) is most frequent in northern Britain, and is a rather scarce moss in south Wales, with most records from crags in the

Brecon Beacons. In Coedydd Nedd a Mellte it is mainly found in the lower Mellte valley: with records from limestone outcrops by the track that passes over Craig y Ddinas and dry coal measures outcrops near the river, by the Gunpowder Works and other locations downstream of there.

- *Encalypta vulgaris* is a scarce plant in Breconshire, with most records from Carboniferous Limestone and Old Red Sandstone. It has been noted once on limestone by the Craig y Ddinas car park.
- *Hygrobiella laxifolia* was recorded by H.H. Knight in the Hepste valley in 1909. A robust population was discovered by SDSB and GSM in the Hepste Valley upstream of Sgwd yr Eira in 2017, at what might well have been Knight's original locality. *Hygrobiella* occurs here at the southern limit of its British range. It tends to be found sprawling through other bryophytes on moist riverside rocks and is easy to overlook, but the Hepste plants form remarkably dense tufts.

Figures 55 & 56: *Distichium capillaceum* by the Mellte and *Hygrobiella laxifolia* by the Hepste.

- *Kurzia sylvatica* is sparsely distributed throughout Britain, mainly in heathland and mire, but sometimes in woodland habitat. It has been

recorded twice along the Hepste – firstly by HH Knight in 1909 and then more recently by Alan Orange on the Sgwd yr Eira waterfall in 2007. Elsewhere in Breconshire it has only been recorded at one other site, Illtyd Pools (SN9625). Due to its size and the need for fertile material for identification purposes, it is probably slightly under-recorded.

- *Kurzia trichoclados* was recorded new for Breconshire from a sheltered rock outcrop on the east side of the Nedd-fechan below Glan-rhyd in 2016. This site is close to the southern range limit of *K. trichoclados* in Britain.
- *Leiocolea bantriensis* and *L. collaris* are more typically found in montane habitats, but have been recorded at several localities throughout the area and are here near the southern edge of their British range. Both favour damp, base-rich rock outcrops, and distinguishing between them is sometimes difficult.
- *Leucobryum juniperoideum* was formerly thought to be Nationally Scarce, so was considered notable by Newton (1994). Although it is infrequent in the woodlands it can be locally abundant, as is the case throughout most of south Wales. It has been noted growing on tree trunks, including oak and birch, with large patches sometimes growing on the ground, mainly under oak, and particularly where the ground is rocky. All previous records of *L. glaucum* from the site are now considered to be *L. juniperioideum*.
- *Loeskeobryum brevirostre* is most abundant by the Nedd-fechan, where it is locally dominant in the ground layer in the upper reaches and is widespread further downstream. It is also present in copious quantity on

boulders in the mist zone of Sgwd Isaf Clun-gwyn, where it probably reflects base-enrichment of the water. It is a typical species of oceanic and western woodlands, and reaches its greatest abundance in base-rich habitats.

- [*Lophocolea fragrans* was included in a dataset from the lower Mellte by BIS, but was not mentioned in Woods (2006). It is plausible that this small liverwort, which was listed as Nationally Scarce by Hodgetts (1992) and can be found growing amongst *Lejeunea lamacerina*, might be in the SAC.]
- *Lophozia incisa* is an uncommon member of a group of bryophytes that colonise rotting logs and is found scattered throughout Coedydd Nedd a Mellte. It is more typical of upland turf and *Sphagnum* mires.

Figures 57 & 58: *Odontoschisma denudatum* and *Tritomaria exsectiformis*, two log liverworts.

- *Odontoschisma denudatum* (Fig. 57) is another uncommon liverwort that is characteristic of rotting logs. It has been recorded in the upper Mellte, central Nedd-fechan, and Cwm Gored, and is locally abundant in some of the locations in which is occurs. Its patchy distribution on the site is peculiar, particularly when contrasted with that of *Tritomaria exsectiformis*, which occupies a similar niche but shows no overlap (Fig. 59).

- *Oreoweisia* (*Cynodontium*) *bruntonii* is frequent on dry acidic cliffs throughout the site. Although a relatively common plant in most of Wales, it is generally scarce in the east and absent from much of England.
- *Plagiochila britannica* was formerly considered Nationally Scarce but has now been found widely in Britain. It is locally frequent in the limestone sections of the SAC, with scattered occurrences elsewhere.
- *Porella cordaeana* has a rather unusual distribution in Britain, tending to avoid the wettest areas in the west and being more or less absent from the east and south-east. The only record of this species in the SAC is from Carboniferous Limestone rocks in the upper Nedd-fechan section, where two small colonies occur.
- *Ptilidium pulcherrimum* was recorded several times in the SAC in the 1970s and 1980s, but has not been seen since; it has declined in south Wales.
- *Solenostoma paroicum* is recorded only from the central Nedd-fechan and lower Mellte where it grows mainly on flushed banks and dripping rock outcrops, but it is probably somewhat overlooked. It is a mainly northern and western species, with few records south and east of Breconshire.
- *Tritomaria exsectiformis* (Fig. 58) is a tiny but distinctive liverwort that is locally frequent in a few areas of the Nedd-fechan and Mellte. It typically grows amongst other bryophytes on oak trunks as well as on rotting logs. Not all colonies have been checked microscopically and it is possible that the scarcer and similar looking *T. exsecta* could also be present at the site, although a good number of representative samples have been examined.

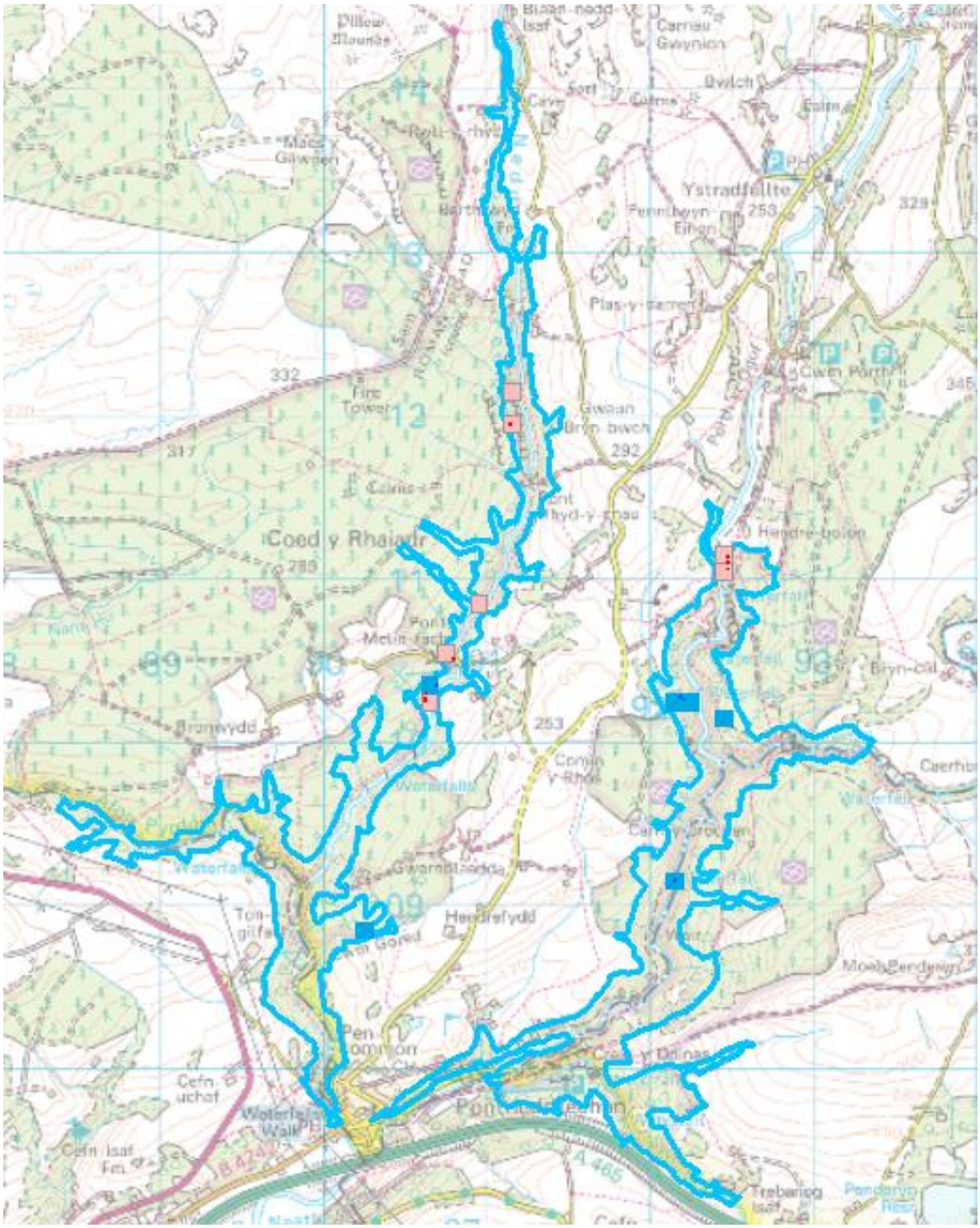


Figure 59: distribution of *Odontoschisma denudatum* (blue) and *Tritomaria exsectiformis* (red) in Coedydd Nedd a Mellte SAC.

6. Discussion

Distribution patterns

Oceanic bryophytes are found almost throughout Coedydd Nedd a Mellte, but they are concentrated in certain areas. The majority of Hyperoceanic species are concentrated alongside water courses, and the most desiccation-sensitive – *Aphanolejeunea microscopica*, *Drepanolejeunea hamatifolia* and *Plagiochila exigua* (Fig. 60) – grow on trees just downstream of waterfalls (Figure 61). This link to waterfall 'mist zones' has been discussed increasingly among bryologists, particularly in relation to the potential impacts of water abstraction (Bosanquet, 2015), and the distribution of these Hyperoceanic liverworts at Coedydd Nedd a Mellte is an important piece of observational evidence. Further research is still needed to investigate the complex relationship between flows and relative humidity, and Coedydd Nedd a Mellte would make an ideal study site because of its rich oceanic flora, well-developed mist zones, and location on the southern edge of the range of the three aforementioned Hyperoceanic liverworts. Investigation is also needed to determine whether the concentration of the most sensitive Hyperoceanic liverwort species on the Nedd-fechan, rather than the Mellte, might be related to the natural hydrology of the former river: the Mellte is downstream of Ystradfellte Reservoir and therefore has regulated flows. One population of *Drepanolejeunea hamatifolia* adjacent to the Mellte does appear to be associated with a waterfall on the main river, but another is actually within the mist zone of a side stream; *Aphanolejeunea* and *P. exigua* have not been found at all by the Mellte.

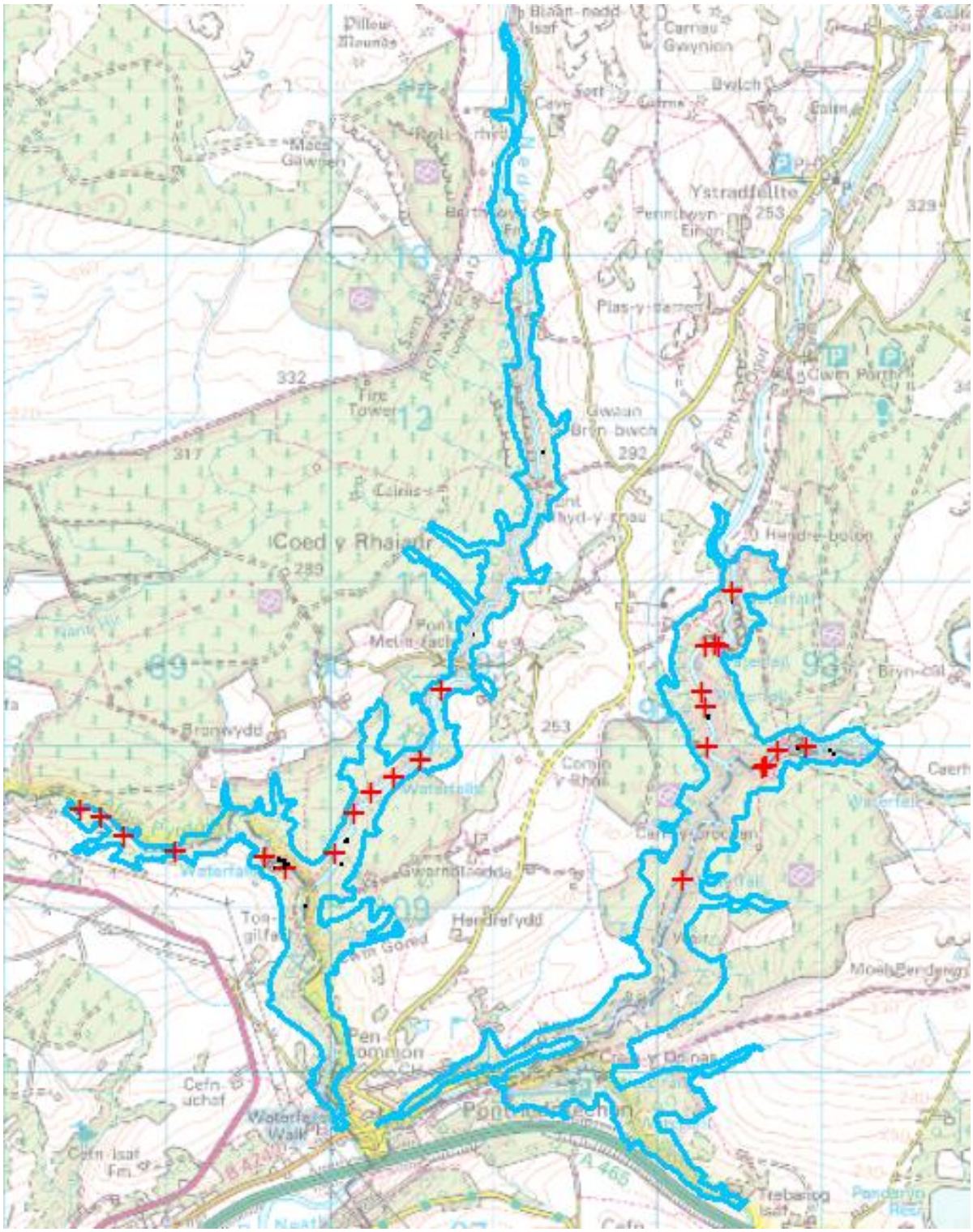


Figure 60: distribution of the Hyperoceanic liverworts *Aphanolejeunea microscopica*, *Drepanolejeunea hamatifolia* and *Plagiochila exigua* (black squares) in Coedydd Nedd a Mellte SAC, with waterfalls marked by the Ordnance Survey mapped (red crosses).

Figure 61: a typical mist zone locus for *Plagiochila exigua* by the Afon Nedd-fechan.

The number of raindays has been considered the principal determinant of the distribution of oceanic bryophytes since the 1960s, but Bosanquet (2015) explains how this is true for the national scale but is subordinate to complex other factors at the local scale. Coedydd Nedd a Mellte illustrates this point, because the SAC is located in an area that receives an average of 160 to 180 days with >1.0mm of rain per year (http://www.metoffice.gov.uk/public/weather/climate/) – which is lower than the 180–200 rain days experienced by most of the key oceanic bryophyte woodlands in Snowdonia – but much of its catchment experience 180-200 rain days, and the upper, montane parts have >200 rain days. Thus, the rivers, waterfalls and mist zones might be considered to bring a very high rainfall (low desiccation stress) climate into a low-

lying (low frost stress) region. The Hyperoceanic distribution of many of the notable species found in the SAC is generally regarded as the result of desiccation intolerance and frost intolerance (Hill & Preston, 1998).

Woodland history is also known to be a determinant of bryophyte diversity and abundance in Atlantic woodlands (Edwards, 1986), and the history of woodland cover at Coedydd Nedd a Mellte may still determine the species composition of the oceanic bryophyte flora. Some oceanic species that are locally abundant in the woodlands of north Wales and even Carmarthenshire are remarkably scarce and patchily distributed in the SAC, particularly *Bazzania trilobata* and *Sphagnum quinquefarium*, but also *Lepidozia cupressina*, *Plagiochila punctata* and *P. spinulosa*. Examination of aerial photographs from the 1940s shows that the landscape around Coedydd Nedd a Mellte was far more open then than it is now (Figure 62), whilst more detailed checks of particular woodland blocks reveal several areas that are now within the SAC boundary had been clearfelled in the 1940s. This is particularly evident in the Mellte Valley (Figure 63), and it may be no coincidence that the Nedd-fechan has a more diverse oceanic bryophyte flora than the Mellte it is here and along the Hepste where *Plagiochila exigua* and *Aphanolejeunea microscopica* have been found. The Hepste is also completely wooded in the 1945 aerial photographs, which may have allowed *Sphenolobopsis pearsonii* to survive there. A digitised dataset of 1947 woodland cover in the SAC, prepared by SDSB using a stereoscope to examine post-war aerial photographs, shows remarkable coincidence between the distribution of some woodland bryophytes that have poor dispersal ability – *Bazzania trilobata*, *Plagiochila punctata*, *P. spinulosa* and *Sphagnum quinquefarium* – and historic woodland cover

(Fig. 64). *Lepidozia cupressina*, which might be expected to show a similar pattern, is found only in an area that was largely treeless in the 1940s, andin the 19th century its scree bed almost entirely lacked trees (Fig. 65): this observation that *L. cupressina* is not a classic ravine woodland liverwort may help to explain its tendancy to grow in the upper levels of ravine woodlands at many of its Welsh sites, whilst most south Wales colonies are in block scree on upland ridges.

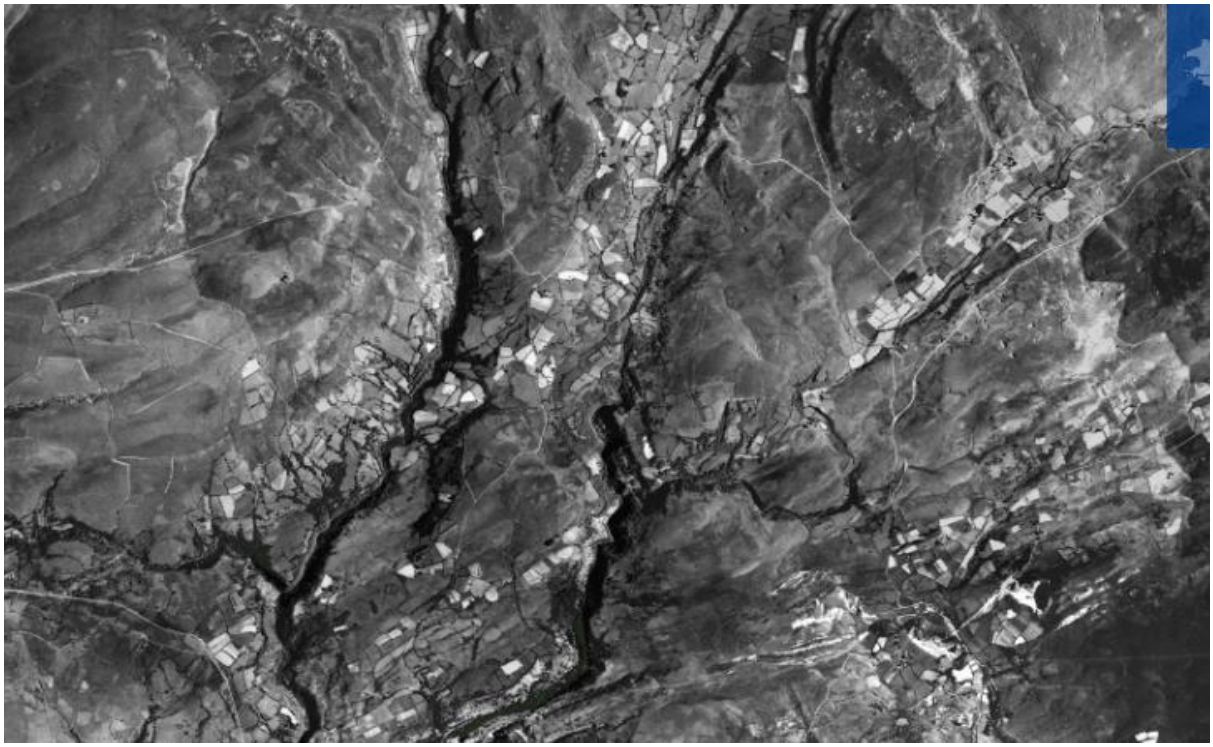


Figure 62: 1945 aerial photograph of the Coedydd Nedd a Mellte area from http://aerialphotos.wales.gov.uk, showing the very open landscape. Large areas are now coniferised, particularly to the west of the Nedd-fechan.

The distribution of the woodland liverworts *Jamesoniella autumnalis* and *Anastrophyllum hellerianum*, which grow on both base-poor bark and decorticated logs and are generally considered to be good indicators of ancient woodland, is complicated within the site, as both have distinct clusters of records. These may relate

to recent ecological conditions – with colonies set back from waterfalls but generally slightly away from the mist zone where the Hyperoceanic liverworts are found – but may also be governed by woodland history. The log flora is remarkably well-developed on the site, and is on a par with any other site in Wales, but its constituent species are mostly very patchy with the exception of the very mobile, spore-producing *Nowellia curvifolia* and *Tetraphis pellucida*. The liverworts *Odontoschisma denudatum* and *Tritomaria exsectiformis*, which spread solely using gemmae, are extremely localised, which could indicate relict populations or, perhaps, founder effects from a small number of colonisation events; *Cephalozia catenulata* and *Riccardia palmata*, which only occasionally produce sporophytes, are also very patchy in their distribution.

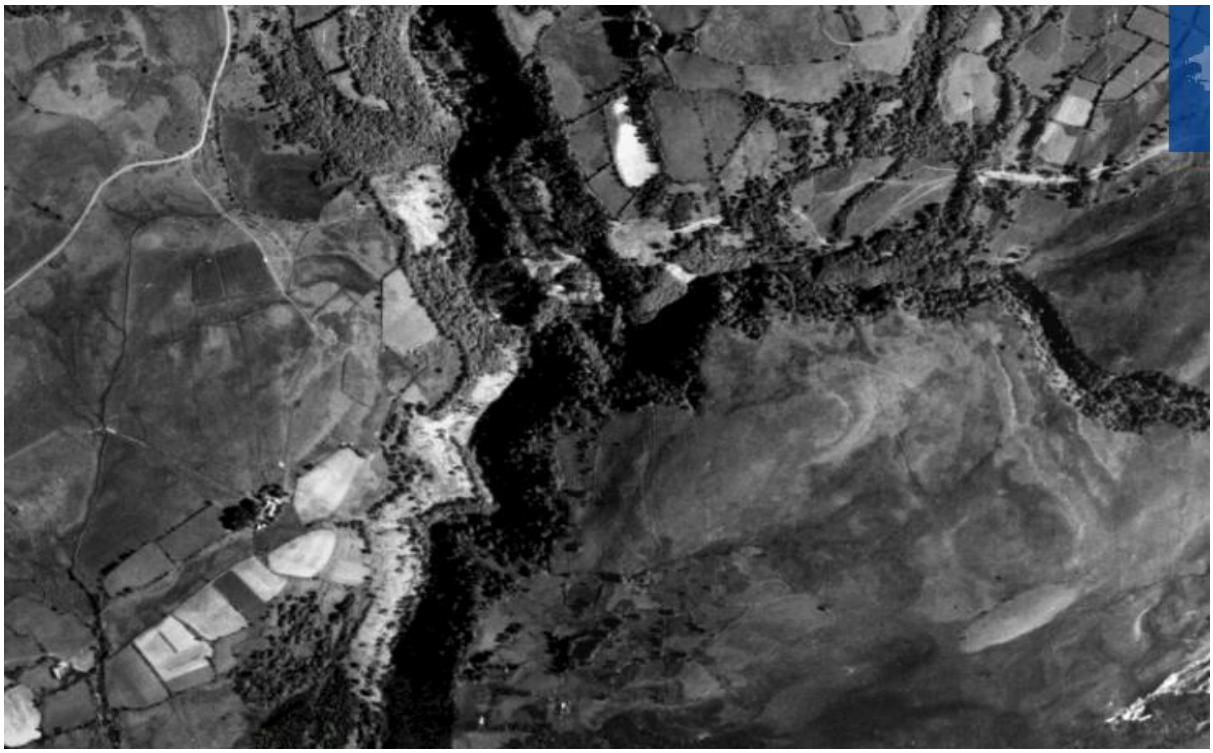


Figure 63: 1945 aerial photograph of the central Mellte and the lower Hepste from http://aerialphotos.wales.gov.uk, showing open areas on the west side of the Mellte valley where woodland/mixed plantation is now present.

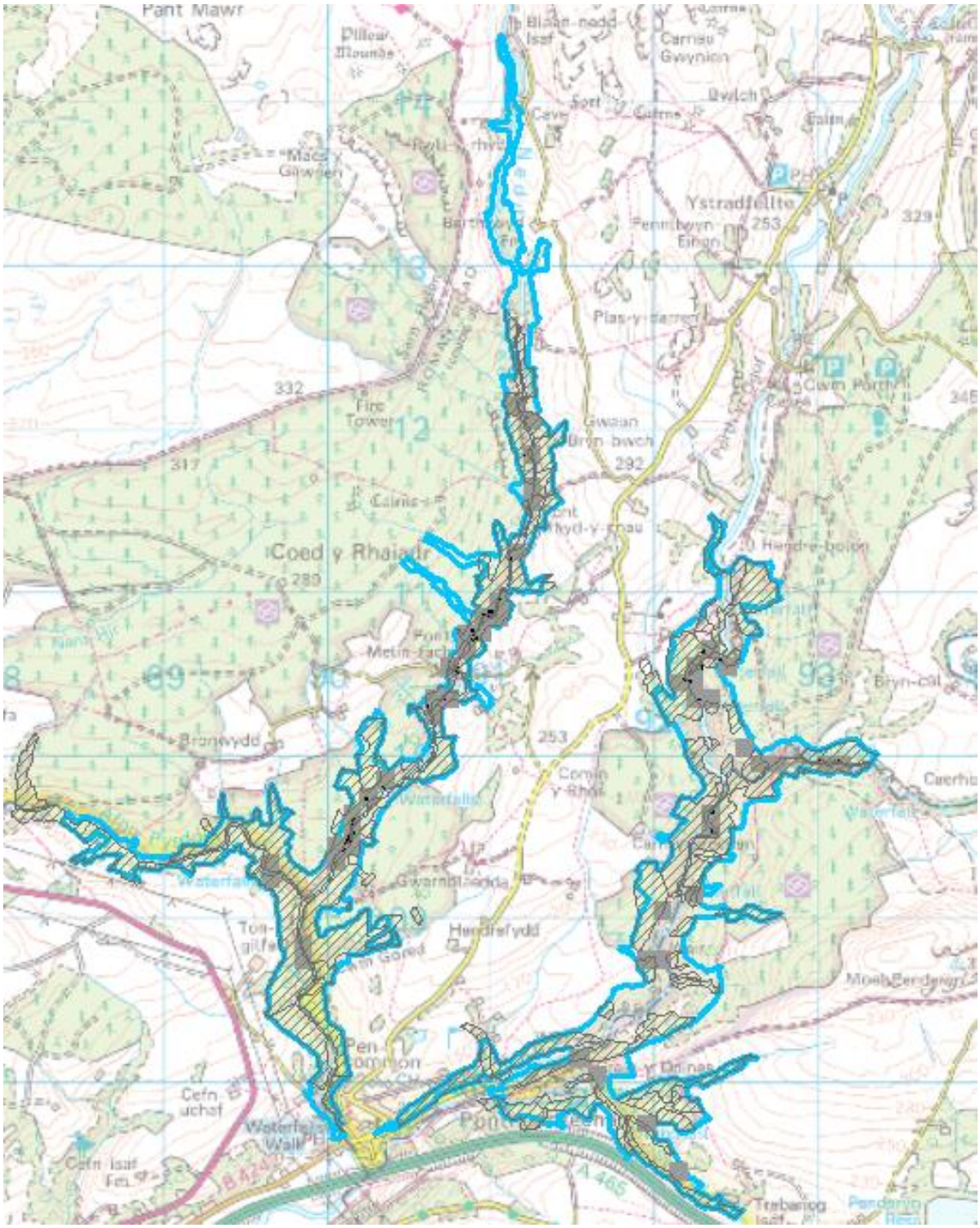
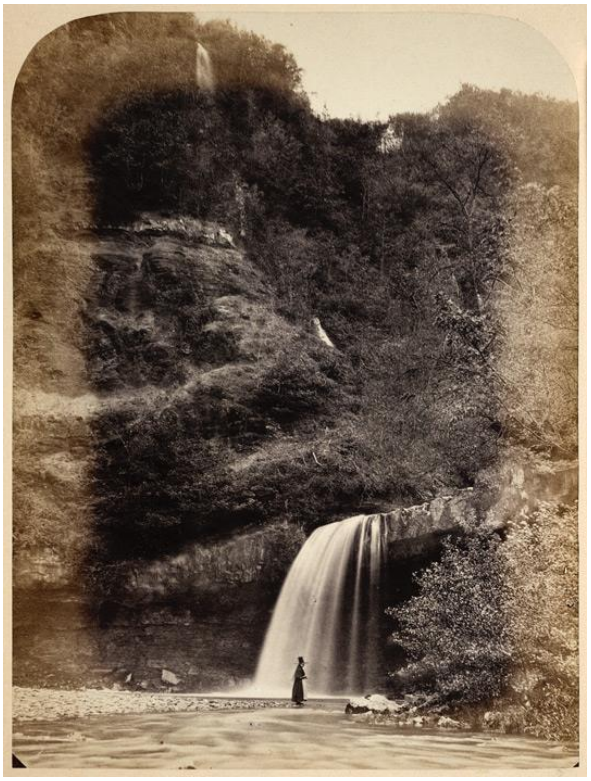


Figure 64: 1947 woodland cover (green cross- shading) in Coedydd Nedd a Mellte SAC (blue boundary) compared with the current distribution of the woodland bryophytes *Bazzania trilobata*, *Plagiochila punctata*, *P. spinulosa* and *Sphagnum quinquefarium* (grey/black squares).

Figure 65: mid 19th century photograph of Clungwyn, showing the limited woodland cover around Sgwd Isaf Clun-gwyn and the screes (bottom right) where *Lepidozia cupressina* now grows (photograph by R.P. Napper in British Library archive http://explore.bl.uk/primo_library/libweb/action/search.do?mode=Basic&vid=BLVU1&vl(freeText0)=napper&fn=search&tab=website_tab&).

The same series of photographs which show the open nature of the scree in which *Lepidozia cupressina* now grows, also give an impression of the valleys in the mid 19th century. 20 photographs were taken by R.P. Napper of the British and Foreign Portrait Company, and are now in the British Library archive; the full set can be viewed on-line. Much of the Mellte valley held very open woodland (Fig. 66), and the vicinity of Sgwd Gwladus was also much more open than it is now (Fig. 67). There was, however, a considerable area of woodland throughout the area that is now SAC.



Figures 66 & 67: mid 19th century photographs of the Mellte valley above the Hepste confluence, and Sgwd Gwladus on the Pyrddin (photographs by R.P. Napper in British Library archive http://explore.bl.uk/primo_library/libweb/action/search.do?mode=Basic&vid=BLVU1&vl(freeText0)=napper&fn=search&tab=website_tab&).

Changes in species composition and abundance

The 15 day survey of Dr Martha Newton in 1994 and the 16 days spent by GSM and SDSB specifically looking for bryophytes in Coedydd Nedd a Mellte between 2006 and 2016 are broadly comparable. Of course, Dr Newton had few previous records to guide her, and only had one pair of eyes compared with the two pairs on most of the more recent survey days, but the overall effort was similar. There were some differences in the habitats that the surveyors focussed on, with Dr Newton spending more time on riverside rocks looking for *Fissidens* than did SDSB and GSM, and the latter pair looking particularly carefully at trees in waterfall mist zones, but similar efforts were made on scree, logs and oak trunks. Some conclusions about relative frequency can be drawn, but it must be remembered that this is still an exceedingly large area for one or two people to survey in a little over two weeks, and the species involved are often so small that they would be missed if one did not look directly at them. The lack of a species from the records of either Dr Newton or SDSB & GSM does not prove that it was not there.

Only one change is really striking: Dr Newton did not record *Zygodon conoideus* at all in 1994, but now it is abundant on most riverside trees and on many other Ash, Oak and Hazel in the woodland. This follows a national increase that has been provisionally linked to the combined effects of climate change and reduced SO_2 pollution. A few other common epiphytes appear to be more widespread on the site than the records of Newton (1994) suggest they were then, for example *Microlejeunea ulicina* is now found commonly throughout the site whereas it was only noted in 7 of the 12 units identified by Dr Newton; the same is true of *Metzgeria consanguinea*,

which is now ubiquitous and abundant. *Orthotrichum affine*, *O. stramineum* and *O. striatum* remain relatively uncommon, but are again seemingly commoner.

More difficult to assess are the recent records of several Hyperoceanic bryophytes, which were not recorded by Dr Newton in 1994. It is quite possible that *Aphanolejeunea microscopica* and *Drepanolejeunea hamatifolia* were present on riverside Ash trees in the 1990s, because there is no indication in Newton (1994) that this habitat was searched. However, the remarkable frequency of *Aphanolejeunea* on trees by the Afon Pyrddin would surely have been noted by somebody in the past, so it seems likely that this species has at the very least increased on the site in tandem with some other epiphytes but with waterfall mist zones the only localities that provide the correct combination of ecological conditions. The discovery of *Daltonia splachnoides* on a decorticated log in the Mellte Valley, far from any mist zone or river, raised the possibility that *Aphanolejeunea* and *Drepanolejeunea* may actually have arrived *de novo* in the SAC. *Daltonia* was not recorded in Wales until 2010, is very rare in Scotland and has still not been found in England. Bosanquet *et al.* (2010) show that this species has increased dramatically in Irish conifer plantations, spreading north-eastwards in a similar way to *Colura calyptrifolia*; three Welsh conifer plantation records are all believed to originate from Irish spores settling in suitable habitat in Wales, and the Mellte population is also considered to have this origin (or perhaps to originate from secondarily from an Irish-founded Welsh colony). There is one record of *Drepanolejeunea* from a willow surrounded by conifers in the Brechfa Forest plantation in Carmarthenshire, but at present there is no clear pattern of this species or *Aphanolejeunea* actually colonising the plantations of Wales in the way that *Colura*

has. Of course, the Coedydd Nedd a Mellte records of these two liverworts are not in plantations – they are in waterfall mist zones – and it is therefore impossible to know for certain whether they are long-term residents of the site's oceanic woodland or are derived from Irish spores which have landed in a typical ravine niche.

Figures 68 & 69: *Colura calyptrifolia* and its conifer plantation niche in Ceredigion.

Consideration also needs to be given to two other liverworts, *Plagiochila bifaria* and *P. exigua*, that grow in similar situations to *Aphanolejeunea microscopica* and *Drepanolejeunea* in the Nedd-fechan and Hepste valleys. These two species do not spread using spores, because their sporophytes are unknown in Europe (British and Irish *P. exigua* is entirely male). The likelihood that these species have a distant origin is remote: they are surely overlooked residents of the Coedydd Nedd a Mellte ravine woodlands. The ecological preferences and distribution of *P. exigua* and *Aphanolejeunea* in Wales are very similar, and if the former can be overlooked in the SAC then perhaps so too can the latter. Regardless of speculation about their origin, these species now grow in microhabitats where waterfalls on the Nedd-fechan, Hepste and Mellte provide constant humidity, and therefore they should be regarded as key indicators of the condition of the oceanic woodland habitat.

Figures 70 to 75: six examples of the woodland ecosystem in Coedydd Nedd a Mellte SAC – Sgwd Isaf Clun-gwyn on the Mellte (top left), the lower waterfalls on the Hepste (top right), a ravine section of the Nedd-fechan (mid left), a boulder-strewn section of the Mellte (mid right), a side stream where *Jubula hutchinsiae* grows (bottom left), and scree woodland where *Lepidozia cupressina* grows (bottom right).

Comparison with other sites

The assessments in Section 4 of this report demonstrate how conclusively Coedydd Nedd a Mellte and its constituent SSSI meet the SSSI selection criteria: both those from 1992 and the current revision. However, comparison between SSSI is difficult, because the 1992 scores include such diverse assemblage components and because the scores that result from the revised guidelines have not yet been fully worked out for Wales. An alternative system for identifying the most bryophyte-rich ravines in Wales was developed by Bosanquet (2011a): the 'Weighted Ravine Marker Score', which scored a site using markers that are largely or entirely restricted to ravines in Wales. The most bryophyte-rich areas of Coedydd Nedd a Mellte SAC – the central Nedd-fechan upstream of the Pyrddin confluence and downstream of Pont Rhyd-y-cnau and the upper Mellte upstream of the Hepste confluence – are both within the top 40 sites for Wales using this score, whilst the combined score for the SAC is in the top 12 (Table 6). The 33 points achieved by the Hepste places it 51st in Wales.

Site name	Area of Search	Grid Ref	WRM score	rank
Coed Ganllwyd NNR	East Gwynedd	SH7224	84	1
Ceunant Llenyrch NNR	East Gwynedd	SH6638	84	1
Coedydd a Cheunant Rheidol	Ceredigion	SN7478	68	3
Coed Aber Artro	East Gwynedd	SH6026	68	3
Ceunant Cynfal	East Gwynedd	SH7041	63	5
Coed Graig Uchaf	East Gwynedd	SH6426	60	6
Coed y Rhygen	East Gwynedd	SH6836	59	7
Afon Llugwy	East Gwynedd	SH7657	59	7
Garth Gell/Afon Cwm Mynach	East Gwynedd	SH6819	59	7
Cwm Cynfal	East Gwynedd	SH7341	58	10
Coedydd Nedd a Mellte	Brecknock	SN9010	57	11
Afon Clywedog & Torrent Walk	East Gwynedd	SH7518	55	12
Afon Cwm-llechen/Figra/Bontddu	East Gwynedd	SH6619	55	12
Fairy Glen	East Gwynedd	SH8053	54	14
Coed Cymerau NNR	East Gwynedd	SH6842	53	15
Dol-y-cae/Nant Cadair	East Gwynedd	SH7211	53	15

Arthog Hall Woods	East Gwynedd	SH6414	52	17
Coedydd Abergwynant	East Gwynedd	SH6816	51	18
Coed Crafnant	East Gwynedd	SH6129	51	18
Rhaeadr Ogwen	West Gwynedd	SH6460	50	20
Cwm Llyfnant	Ceredigion	SN7197	50	20
Afon Arran	East Gwynedd	SH7316	48	22
Allt y Benglog	East Gwynedd	SH8023	47	23
Coed Pengwern	East Gwynedd	SH6942	46	24
Coedydd Aber	West Gwynedd	SH6671	46	24
Coed Cwm Einion	Ceredigion	SN6994	45	26
Ceunant Dulyn	East Gwynedd	SH7568	43	27
Cwm Gelli-Iago	West Gwynedd	SH6348	43	27
Dolmelynllyn	East Gwynedd	SH7223	41	29
Gwynfynydd	East Gwynedd	SH7327	41	29
Gamlan (above Coed Ganllwyd)	East Gwynedd	SH7124	40	31
Gwenffrwd RSPB	Dinefwr	SN7545	40	31
Coed Cwm Clettwr	Ceredigion	SN6691	40	31
Central Nedd-fechan	Brecknock	SN9009	40	31
Cwm Bychan	East Gwynedd	SH6431	39	35
Helygog	East Gwynedd	SH7819	38	36
Hafod Iwfog	West Gwynedd	SH6552	38	36
Coed Cwmgwared	West Gwynedd	SH4147	38	36
Dinas Du	West Gwynedd	SH5945	38	36
Upper Mellte	Brecknock	SN9210	38	36

Table 6: the top 40 sites in Wales for the Weighted Ravine Marker Score (WRM).

The high Weighted Ravine Marker Score of Coedydd Nedd a Mellte and its two richest sections is all the more remarkable when the top 40 scoring sites in Wales are plotted on a map (Figure 73). The remainder are almost entirely in north-west Wales, with outliers in Ceredigion and north-eastern Carmarthenshire. No other sites in the Brecknock Area of Search score anything like as highly: the nearest comparable totals are Nant Irfon NNR (29 points), Nant Llech SSSI (20 points) and Carngafallt.

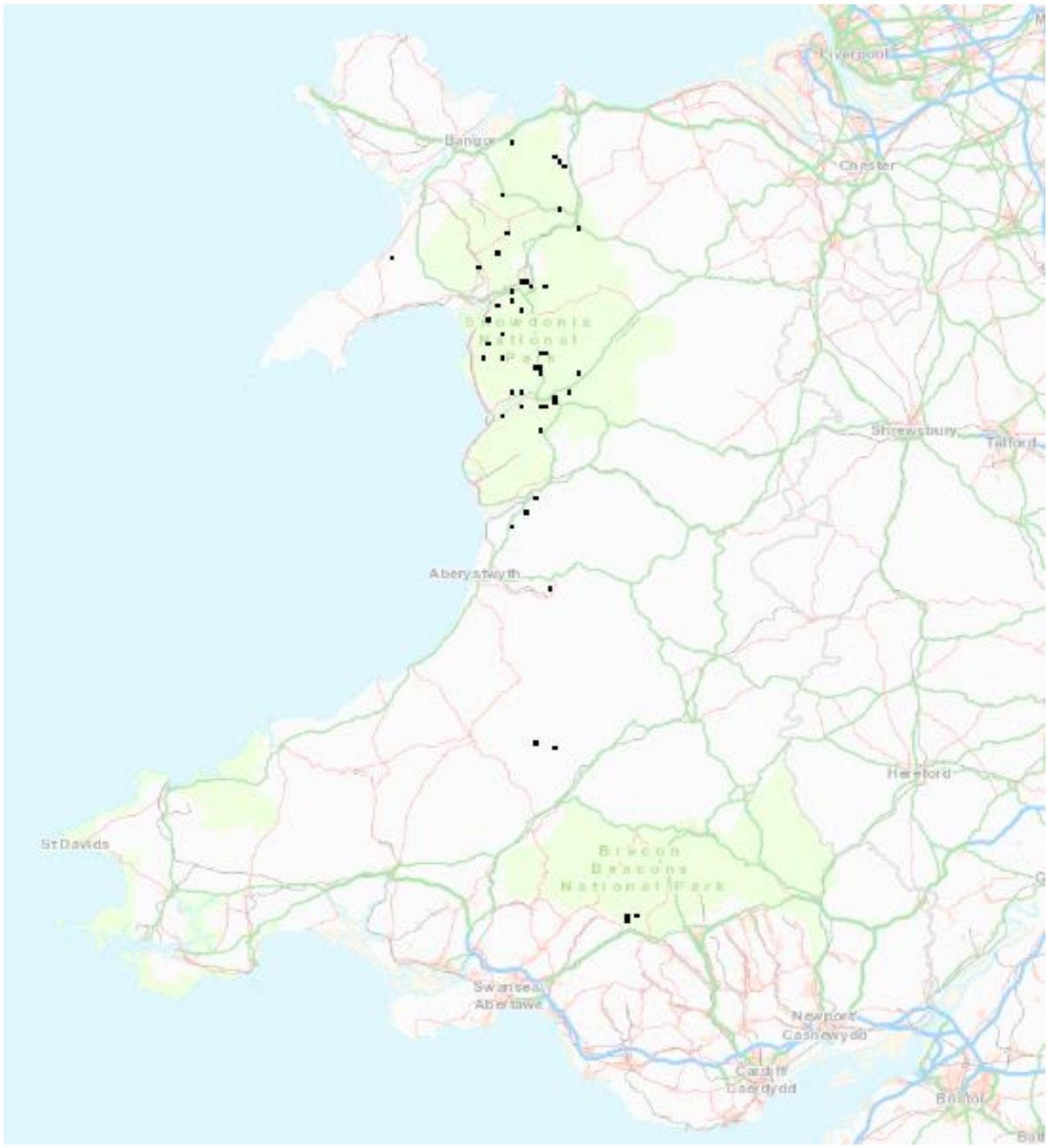


Figure 76: the top 40 sites in Wales for the Weighted Ravine Marker Score.

7. Conclusions

Coedydd Nedd a Mellte in a Welsh, British and European context

Bryophyte surveys carried out in the 1990s and early 2000s showed that Coedydd Nedd a Mellte was an important woodland complex for oceanic bryophytes and the Old Sessile Oakwoods habitat that they typify, but the more recent work detailed in the current report emphasises just what an outstanding area this is. It easily passes the SSSI selection thresholds, both for a combined score and for the revised oceanic woodland, woodland and limestone assemblages. No other site in the Brecknock Area of Search has such a diverse assemblage of Hyperoceanic and Oceanic mosses and liverworts, and there are very few comparable sites south of Snowdonia.

The diversity of oceanic bryophytes here is believed to stem from complex interacting factors: this is an area of moderately high rainfall but is in a catchment with much higher frequency of rain; the geology has led to the development of steep-sided valleys and frequent waterfalls, some of which have extensive mist zones; steep terrain has allowed retention of woodland cover in a number of areas, even when much surrounding woodland was being felled; this is one of the larges contiguous areas of broadleaved woodland in south Wales, which would also have helped to prevent regional extinctions; and climate change may be favouring the spread of certain species, enriching the oceanic flora. The SAC is now among the most thoroughly surveyed sites in south Wales, and almost every recent visit has revealed new surprises, but this history of recording is no different to that enjoyed by key north Wales sites such as Coed Ganllwyd and Ceunant Llennyrch.

Careful management is needed to prevent damage to the bryophyte flora. The needs of the bryophyte assemblage should be taken into consideration during planning for forestry operations – both in terms of potential changes to shade and humidity from felling, and in terms of potential benefits to ecosystem connectivity from PAWS restoration and replacement of some conifer blocks with native broadleaved trees. Visitors need to be controlled to prevent erosion (Figs. 74 & 75), whilst allowing people to enjoy the spectacular waterfalls and woodland. The interpretation provided for gorge walking groups should be kept up to date, and consideration should be given to the provision of additional information on the area's outstanding oceanic mosses and liverworts to general visitors.

Figures 77 & 78: erosion caused by visitors to Sgwd Clun-gwyn.

There are many sensitive bryophyte locations near to footpaths, with a significant part of the *Rhytidiadelphus subpinnatus* population growing on banks alongside paths, whilst other scarce species are present on pathside trees and rock outcrops. Any footpath works should be fully discussed with NRW to ensure that the bryophyte features, as well as the lichen, vascular plant and geological features, are not compromised or destroyed by poorly planned work.

The close correlation between waterfalls and a number of desiccation-sensitive bryophytes is discussed in section 6 (above). Because these desiccation-sensitive species are an integral part of the Annex 1 habitat for which the SAC was selected, and because they are key performance indicators for the habitat (differentiating Old Sessile Oak Woodland from other forms of oak woodland), prevention of damage to the oceanic bryophyte flora is essential. The presence of these species alongside the watercourses in the SAC does not rule out water abstraction for the generation of hydroelectric power, but it is of paramount importance that any proposal to abstract water from the rivers or streams in the SAC demonstrates that the abstraction will not affect relative humidity, desiccation stress or frost potential within the site.

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Appendix 1

Records of selected notable species

These records are in the LERC and BBS data with greater precision and extra information. **Please do not re-input them!**

Taxon	Grid ref	Locality	Date	Recorder
Amblystegium confervoides	SN911123	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Amblystegium confervoides	SN911138	Pwll-y-rhyd	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Amblystegium confervoides	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Amblystegium confervoides	SN927122	Ystradfellte,Porth yr Ogof	06/03/1985	Orange, A.
Anastrophyllum hellerianum	SN89660929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN89680929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN89680930	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN89700929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN90160957	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN90160958	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN90170957	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN90180959	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN90270969	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN90560992	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	-	
Anastrophyllum hellerianum	SN90601030	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/12/2009	Motley, G.S.
Anastrophyllum hellerianum	SN906100	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1994	Newton, M.E.
Anastrophyllum hellerianum	SN906103	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/12/2009	Motley, G.S.
Anastrophyllum hellerianum	SN90611025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN90611026	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN90611027	below Pont Melin-fach	18/02/2011	Motley, G.S.
Anastrophyllum hellerianum	SN90641025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN90641034	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/01/2009	GS Motley

Anastrophyllum hellerianum	SN90701035	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN907104	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Anastrophyllum hellerianum	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Anastrophyllum hellerianum	SN908105	Nedd Valley near Pont Melin Fach	1986	RG Woods
Anastrophyllum hellerianum	SN909107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	September 1986	F Rose;RG Woods
Anastrophyllum hellerianum	SN91031092	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN91041096	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN91061101	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/03/1986	RG Woods
Anastrophyllum hellerianum	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Anastrophyllum hellerianum	SN91121187	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1994	Newton, M.E.
Anastrophyllum hellerianum	SN91141195	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	01/03/1986	Woods, R.G.
Anastrophyllum hellerianum	SN91171180	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN91171199	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN91201198	Nedd Fechan	1986	RG Woods
Anastrophyllum hellerianum	SN919087	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Anastrophyllum hellerianum	SN919088	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Anastrophyllum hellerianum	SN91930877	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Anastrophyllum hellerianum	SN91940878	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Anastrophyllum hellerianum	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Anastrophyllum hellerianum	SN92150917	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92160914	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92160917	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92160918	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92160921	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92170915	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92170916	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92170916	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92200914	Coedydd Nedd a Mellte, Carn-y-crochan	24/04/2012	Hodgetts, N.G.

Anastrophyllum hellerianum	SN922104	Afon Mellte	26/12/2016	Barry Stewart
Anastrophyllum hellerianum	SN922105	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/11/1999	Bosanquet, S.D.S., Motley, G.S.
Anastrophyllum hellerianum	SN92211027	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92220943	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92270953	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN92271033	Sgwd y Pannwr	2008	Orange, A
Anastrophyllum hellerianum	SN92271056	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	-	
Anastrophyllum hellerianum	SN92281033	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92281034	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Anastrophyllum hellerianum	SN92281036	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Anastrophyllum hellerianum	SN92291014	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	-	
Anastrophyllum hellerianum	SN92291029	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92301028	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN923099	Sgwd y Pannwr lower fall	16/11/2008	GS Motley
Anastrophyllum hellerianum	SN923100	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Anastrophyllum hellerianum	SN923104	Sgwd pannwr above	10/03/2011	Motley G S
Anastrophyllum hellerianum	SN92311026	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92311027	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Anastrophyllum hellerianum	SN92360952	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN92401067	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN924099	Coedydd Nedd a Mellte, Sgwd y Pannwr, downstream from	26/04/2012	Hodgetts, N.G.
Anastrophyllum hellerianum	SN92411084	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92411087	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92420980	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Anastrophyllum hellerianum	SN92421092	group of alder by path to Sgwd Clun-gwyn	19/01/2017	Bosanquet, S.D.S. and Motley, G.S.
Anastrophyllum hellerianum	SN92431085	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92431086	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92431091	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/01/2017	Bosanquet, S.D.S. and Motley, G.S.
Anastrophyllum hellerianum	SN92451080	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92451097	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/01/2017	Bosanquet, S.D.S. and Motley, G.S.

Anastrophyllum hellerianum	SN92451107	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92461085	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92461085	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92461085	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92461088	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92471079	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/01/2017	Bosanquet, S.D.S. and Motley, G.S.
Anastrophyllum hellerianum	SN92471091	Sgwd Clun-gwyn	2008	Orange, A
Anastrophyllum hellerianum	SN92471091	Coedydd Nedd a Mellte, Sgwd Clun Gwyn	25/04/2012	Hodgetts, N.G.
Anastrophyllum hellerianum	SN92471092	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92500987	Hepste-Mellte constraints compilation	-	
Anastrophyllum hellerianum	SN926115	between Porth y Ogof and Clun Gwyn	23/05/2011	Motley, G.S.
Anastrophyllum hellerianum	SN92650992	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92660992	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92680991	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92700988	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92750997	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92751000	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN929100	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92940998	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92960996	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92970997	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN92970998	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN93000997	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN93010996	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN93010997	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum hellerianum	SN93030996	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Anastrophyllum minutum	SN923104	Sgwd y Pannwr	01/11/2012	Bosanquet, S.D.S.
Anomobryum concinnatum	SN90791051	Pont Melin-fach	13/04/1984	
Anomobryum concinnatum	SN938086	Moel Penderyn	07/09/2007	Bosanquet, S.D.S.
Aphanolejeunea microscopica	SN89650925	Sgwd Gwladus, above viewpoint	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Aphanolejeunea microscopica	SN89680929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley

Aphanolejeunea microscopica	SN89680930	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN89700929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN89710925	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN89710927	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN89720929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN89740927	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN89840901	Nedd-fechan west bank	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN90060927	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Aphanolejeunea microscopica	SN90080941	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN90100942	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN93050997	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Aphanolejeunea microscopica	SN93070994	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Bartramia halleriana	SN90711034	Pont Melin-fach	03/03/2014	Motley, G.S.
Bartramia halleriana	SN923105	Afon Mellte (Sgwd Isaf Clun-Gwyn)	04/12/2016	Barry Stewart
Bartramia halleriana	SN92401070	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Bartramia halleriana	SN92401070	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Bartramia halleriana	SN92411075	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	2008	Orange, A
Bazzania trilobata	SN90791051	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	13/04/1984	Woods, R.G.
Bazzania trilobata	SN90881071	Afon Nedd (above Pont Melin-fach)	01/03/2011	B. Stewart & C.R. Hipkin
Bazzania trilobata	SN90901072	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Bazzania trilobata	SN909108	Nedd valley, west bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Bazzania trilobata	SN90991088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Bazzania trilobata	SN91001088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Bazzania trilobata	SN910109	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1995	Hipkin, C.R.
Bazzania trilobata	SN91201184	north of Rhyd y Cnau	04/03/2011	G.S. Motley
Bazzania trilobata	SN92350953	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Blepharostoma trichophyllum	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Blepharostoma trichophyllum	SN89660929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN89700932	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN89750924	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN898089	Nedd valley, Tonygilfach	16/04/2010	Bosanquet, S.D.S., Motley, G.S.

Blepharostoma trichophyllum	SN899083	Nedd valley, Lluest	16/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Blepharostoma trichophyllum	SN89970782	Nedd valley, Pontneddfechan	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Blepharostoma trichophyllum	SN90060927	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN90100942	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN90160958	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN90250967	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN90611027	below Pont Melin-fach	18/02/2011	Motley, G.S.
Blepharostoma trichophyllum	SN907104	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Blepharostoma trichophyllum	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Blepharostoma trichophyllum	SN908104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1984	RG Woods
Blepharostoma trichophyllum	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Blepharostoma trichophyllum	SN911123	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Blepharostoma trichophyllum	SN918088	Afon Mellte (side valleys)	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Blepharostoma trichophyllum	SN919087	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Blepharostoma trichophyllum	SN92090856	Mellte, east bank downstream of Cilhepste	27/10/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Blepharostoma trichophyllum	SN92160917	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN92191027	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN922104	Afon Mellte	26/12/2016	Barry Stewart
Blepharostoma trichophyllum	SN92220942	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN92301028	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN923099	Coedydd Nedd a Mellte, Sgwd y Panwr, downstream from	26/04/2012	Hodgetts, N.G.
Blepharostoma trichophyllum	SN923103	above Sgwd Pannwr	01/11/2012	Bosanquet, S.D.S. and Motley, G.S.
Blepharostoma trichophyllum	SN92321019	Mellte, west bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN92431077	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN92650985	Hepste, lower waterfall	27/10/2016	SDS Bosanquet
Blepharostoma trichophyllum	SN92680993	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN92751000	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Blepharostoma trichophyllum	SN930099	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley

Blepharostoma trichophyllum	SN93190995	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Brachydontium trichodes	SN923106	Sgwd Isaf Clyn Gwyn	01/11/2012	Bosanquet, S.D.S.
Bryum mildeanum	SN938086	Moel Penderyn	07/09/2007	Bosanquet, S.D.S.
Bryum torquescens	SN912079	Craig y Dinas	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Campylophyllum calcareum	SN91	Ystradfellte,nr Afon Mellte 1m S of	1971	Perry, A.R.
Campylopus fragilis	SN80	Pontneddfechan+Afon Pyrddin	01/01/1950	Smith, A.J.E.
Campylopus fragilis	SN903097	Section C in report	1994	Newton, M.E.
Campylopus fragilis	SN924110	section F in report	1994	Newton, M.E.
Campylopus fragilis	SN92440975	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Campylopus subulatus	SN89970782	Nedd valley, Pontneddfechan	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Campylopus subulatus	SN922105	Sgwd Isaf Clyn Gwyn	01/11/2012	Bosanquet, S.D.S.
Cephalozia catenulata	SN90	Afon Hepste Valley+R Neath	01/01/1963	Crundwell, A.C., Paton, J.A. and Warburg, E.F.
Cephalozia catenulata	SN90030928	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Cephalozia catenulata	SN90180959	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Cephalozia catenulata	SN90791051	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	13/04/1984	Woods, R.G.
Cephalozia catenulata	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Cephalozia catenulata	SN912080	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Cephalozia catenulata	SN919087	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	10/01/1985	Woods, R.G.
Cephalozia catenulata	SN919087	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Cephalozia catenulata	SN91930876	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Cephalozia catenulata	SN91940877	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Cephalozia catenulata	SN91950878	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Cephalozia catenulata	SN920079	Clwyd-rhyd-fan valley	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Cephalozia catenulata	SN92020870	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Cephalozia catenulata	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Cephalozia catenulata	SN92111028	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Cephalozia catenulata	SN92191027	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Cephalozia catenulata	SN92201026	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Cephalozia catenulata	SN92220943	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet

Cephalozia catenulata	SN92261025	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Cephalozia catenulata	SN92271024	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Cephalozia catenulata	SN923105	Afon Mellte (Sgwd Isaf Clun-Gwyn)	04/12/2016	Barry Stewart
Cephalozia catenulata	SN92390951	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Cephalozia catenulata	SN924108	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	12/07/1985	RG Woods
Cephalozia catenulata	SN92460976	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Cephalozia catenulata	SN92520989	Hepste, lower reaches	27/10/2016	SDS Bosanquet
Cephalozia catenulata	SN92700991	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Cephalozia catenulata	SN92820997	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Cephalozia catenulata	SN9283909996	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	-	
Cephalozia catenulata	SN92960996	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Cephalozia catenulata	SN92970998	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Cephalozia catenulata	SN93080994	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Cephalozia catenulata	SN93090994	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Cololejeunea calcarea	SN80	Pontneddfechan+Afon Pyrddin	01/01/1950	Smith, A.J.E.
Cololejeunea calcarea	SN80	Pont Nedd Fechan,R Neath nr	08/04/1963	Duncan, U.K.
Cololejeunea calcarea	SN80	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	04/11/1971	AJE Smith
Cololejeunea calcarea	SN907104	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Cololejeunea calcarea	SN90791051	Pont Melin-fach	13/04/1984	woods, R.G.
Cololejeunea calcarea	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Cololejeunea calcarea	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Cololejeunea calcarea	SN910132	Berthlwyd	01/08/2002	Motley, G.S.
Cololejeunea calcarea	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Cololejeunea calcarea	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Cololejeunea calcarea	SN911138	Pwll-y-rhyd	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Cololejeunea calcarea	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Cololejeunea calcarea	SN91291179	just north of Rhyd y Cnau	04/03/2011	G.S. Motley
Cololejeunea calcarea	SN926115	between Porth y Ogof and Clun Gwyn	23/05/2011	Motley, G.S.
Cololejeunea minutissima	SN9108	Lower Mellte Valley	23/02/2015	Charles and Hilary Hipkin
Cololejeunea minutissima	SN920089	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW

Colura calyptrifolia	SN90050940	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Colura calyptrifolia	SN90580973	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Colura calyptrifolia	SN9108	Lower Mellte Valley	23/02/2015	Charles and Hilary Hipkin
Colura calyptrifolia	SN91101108	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Colura calyptrifolia	SN91111105	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Colura calyptrifolia	SN91111115	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Colura calyptrifolia	SN911122	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Colura calyptrifolia	SN91121105	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Colura calyptrifolia	SN912115	Tref-garn	11/06/2013	Motley, G S
Colura calyptrifolia	SN912122	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Colura calyptrifolia	SN91660800	Sychryd	20/01/2017	C Hipkin
Colura calyptrifolia	SN91660800	Sychryd	20/01/2017	C Hipkin
Colura calyptrifolia	SN923084	plantation NW of Moel Penderyn	28/11/2012	Motley, G.S.
Colura calyptrifolia	SN92311013	Mellte, west bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Colura calyptrifolia	SN92471082	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Colura calyptrifolia	SN92750980	Cilhepste	27/10/2016	SDS Bosanquet
Daltonia splachnoides	SN92191042	Mellte Valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Daltonia splachnoides	SN92191042	Afon Mellte	26/12/2016	Barry Stewart
Dichodontium flavescens	SN80	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	04/11/1971	AJE Smith
Dichodontium flavescens	SN898084	Coedydd Nedd a Mellte	1994	Newton, M.E.
Dichodontium flavescens	SN899083	Nedd valley, Lluest	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Dichodontium flavescens	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Dichodontium flavescens	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Dichodontium flavescens	SN911110	Coedydd Nedd a Mellte	1994	Newton, M.E.
Dichodontium flavescens	SN911121	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Dichodontium flavescens	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Dichodontium flavescens	SN91171240	Coedydd Nedd a Mellte	1994	Newton, M.E.
Dichodontium flavescens	SN923101	Coedydd Nedd a Mellte, Sgwd y Pannwr, downstream from	26/04/2012	Hodgetts, N.G.

Dichodontium flavescens	SN924110	Coedydd Nedd a Mellte	1994	Newton, M.E.
Dicranella subulata	SN922094	Coedydd Nedd a Mellte, Carn-y-crochan	24/04/2012	Hodgetts, N.G.
Dicranodontium denudatum	SN90010924	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranodontium denudatum	SN90030928	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranodontium denudatum	SN90040918	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranodontium denudatum	SN90050915	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranodontium denudatum	SN90180959	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranodontium denudatum	SN90270969	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranodontium denudatum	SN90611025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN90661030	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN90661038	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN90681035	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN90701075	Nedd fechan	1986	RG Woods
Dicranodontium denudatum	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Dicranodontium denudatum	SN908104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1984	RG Woods
Dicranodontium denudatum	SN908116	Pont Rhyd-y-cneu	11/06/2013	Motley, G S
Dicranodontium denudatum	SN90991088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN910108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Dicranodontium denudatum	SN91041100	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Dicranodontium denudatum	SN91161239	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/03/1986	RG Woods
Dicranodontium denudatum	SN919087	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Dicranodontium denudatum	SN919088	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Dicranodontium denudatum	SN920079	Clwyd-rhyd-fan valley	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Dicranodontium denudatum	SN920086	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Dicranodontium denudatum	SN921104	Afon Mellte	26/12/2016	Barry Stewart
Dicranodontium denudatum	SN92191042	Mellte Valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Dicranodontium denudatum	SN92231048	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn to Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Dicranodontium denudatum	SN92261025	Nant Clun-gwyn	20/12/2016	SDS Bosanquet

Dicranodontium denudatum	SN92271024	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Dicranodontium denudatum	SN92281055	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN92291054	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN923099	Coedydd Nedd a Mellte, Sgwd y Panwr, downstream from	26/04/2012	Hodgetts, N.G.
Dicranodontium denudatum	SN923103	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Dicranodontium denudatum	SN923103	Afon Mellte (opposite Sgwd y Pannwr)	26/12/2016	Barry Stewart
Dicranodontium denudatum	SN923104	Sgwd pannwr above	10/03/2011	Motley G S
Dicranodontium denudatum	SN92351008	Mellte, east bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Dicranodontium denudatum	SN924109	Coedydd Nedd a Mellte, Sgwd Clun Gwyn	27/04/2012	Hodgetts, N.G.
Dicranodontium denudatum	SN92430976	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Dicranodontium denudatum	SN926098	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1985	Woods, R.G.
Dicranodontium denudatum	SN926098	Afon Hepste (below Sgwd yr Eira)	04/12/2016	Barry Stewart
Dicranodontium denudatum	SN926099	Afon Hepste (below Sgwd yr Eira)	04/12/2016	Barry Stewart
Dicranodontium denudatum	SN92751000	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN92960996	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Dicranodontium denudatum	SN93000997	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Dicranum flagellare	SN901088	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	25/02/1986	RG Woods
Dicranum flagellare	SN90791051	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	13/04/1984	RG Woods
Dicranum flagellare	SN908104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1984	Woods, R.G.
Dicranum flagellare	SN90811065	Nedd Fechan	1986	RG Woods
Dicranum flagellare	SN912115	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	Woods, R.G.
Dicranum montanum	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Dicranum montanum	SN922093	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1994	Newton, M.E.
Dicranum montanum	SN92320967	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Dicranum montanum	SN92471113	upstream of Sgwd Clun-gwyn	2008	Orange, A
Dicranum montanum	SN92740999	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Dicranum tauricum	SN90080912	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Dicranum tauricum	SN90310882	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1994	Newton, M.E.
Distichium capillaceum	SN89630930	Sgwd Gwladys (VC42)	29/06/2011	B. Stewart & C.R. Hipkin
Distichium capillaceum	SN91180801	Mellte near Craig y Dinas	2008	Orange, A

Distichium capillaceum	SN91290801	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Distichium capillaceum	SN91450815	Afon Mellte, Craig y Ddinas	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Distichium capillaceum	SN91950840	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Drepanolejeunea hamatifolia	SN90100941	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Drepanolejeunea hamatifolia	SN90871068	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Drepanolejeunea hamatifolia	SN92311016	Mellte, west bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Drepanolejeunea hamatifolia	SN92311018	Mellte, west bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Drepanolejeunea hamatifolia	SN92451087	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Drepanolejeunea hamatifolia	SN93050997	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Encalypta vulgaris	SN80	Pontneddfechan+Afon Pyrddin	04/11/1971	Smith, A.J.E.
Encalypta vulgaris	SN91140794	Dinas car park	1999	SDS Bosanquet & GS Motley
Entosthodon obtusus	SN80	Pontneddfechan+Afon Pyrddin	04/11/1971	Smith, A.J.E.
Fissidens celticus	SN90661054	Heol Calch	24/02/2015	Motley, G S
Fissidens celticus	SN907104	Nedd Valley near Pont Melin Fach	01/01/1980	Paton, J.A., Perry, A.R.
Fissidens celticus	SN90791051	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	13/04/1984	Woods, R.G.
Fissidens celticus	SN908104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	26/03/1980	Woods, R.G.
Fissidens celticus	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Fissidens celticus	SN912115	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	Woods, R.G.
Fissidens celticus	SN921079	Clwyd-rhyd-fan valley	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Fissidens celticus	SN924099	Coedydd Nedd a Mellte, Sgwd y Pannwr, downstream from	26/04/2012	Hodgetts, N.G.
Fissidens exilis	SN91	Ystradfellte,Afon Mellte below	23/10/1969	Paton, J.A.
Fissidens exilis	SN91460804	near Sychryd waterfall	2008	Orange, A
Fissidens gracilifolius	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Fissidens gracilifolius	SN912080	Craig y Ddinas north side	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Fissidens gracilifolius	SN928123	Porth yr Ogof, upstream of	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Fissidens rivularis	SN90560991	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Fissidens rivularis	SN906103	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	14/05/1980	Woods, R.G.
Fissidens rivularis	SN90781040	Nedd Fechan	1986	RG Woods
Fissidens rivularis	SN909081	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Fissidens rivularis	SN90960824	Hepste-Mellte constraints compilation	-	

Fissidens rivularis	SN90970809	Hepste-Mellte constraints compilation	-	
Fissidens rivularis	SN90970814	Hepste-Mellte constraints compilation	-	
Fissidens rivularis	SN912115	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	Woods, R.G.
Fissidens rivularis	SN919093	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1991	Unknown CCW
Fissidens rufulus	SN80	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	04/11/1971	AJE Smith
Fissidens rufulus	SN902077	Pont-nedd-Fechan,Afon Mellte	07/04/1963	Richards, P.W.
Fissidens rufulus	SN90570991	Hepste-Mellte constraints compilation	-	
Fissidens rufulus	SN906103	Nedd Fechan, Blaenau Nedd & Mellte	01/01/1999	Bosanquet, S.D.S., Motley, G.S.
Fissidens rufulus	SN90651010	Hepste-Mellte constraints compilation	-	
Fissidens rufulus	SN90651032	Hepste-Mellte constraints compilation	-	
Fissidens rufulus	SN90681035	Hepste-Mellte constraints compilation	-	
Fissidens rufulus	SN907104	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Fissidens rufulus	SN90781040	Nedd Fechan	1986	RG Woods
Fissidens rufulus	SN90791051	Pont Melin-fach	13/04/1984	
Fissidens rufulus	SN908103	River Nedd below Pont Melin Fach, Pont Nedd Fechan	26/03/1980	Woods, R.G.
Fissidens rufulus	SN90821038	Hepste-Mellte constraints compilation	-	
Fissidens rufulus	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Fissidens rufulus	SN914081	Afon Mellte, Craig y Ddinas	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Fissidens rufulus	SN91450814	Hepste-Mellte constraints compilation	-	
Fissidens rufulus	SN91640826	Mellte upstream of metal bridge	2008	Orange, A
Fissidens rufulus	SN919093	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1991	Unknown CCW
Fissidens rufulus	SN923107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	06/03/1985	RG Woods
Fissidens rufulus	SN92340961	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Fissidens rufulus	SN92451062	Afon Mellte above Scwd Isaf Clun-gwyn, Ystradfellte	06/03/1985	Alan Orange
Fissidens rufulus	SN926098	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1985	Woods, R.G.
Fissidens rufulus	SN92890998	Sgwd yr Eira waterfall	21/08/2007	Orange, A
Frullania fragilifolia	SN91780849	on or in the area of crag above chimney	18/02/2016	Bosanquet S D S, Motley G S
Grimmia hartmanii	SN896094	Sgwd Gwladus, upstream	16/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Grimmia hartmanii	SN909107	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Grimmia hartmanii	SN911123	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart

Grimmia hartmanii	SN911124	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Grimmia hartmanii	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Grimmia hartmanii	SN91151255	Hepste-Mellte constraints compilation	-	
Grimmia hartmanii	SN92040850	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Grimmia hartmanii	SN92050851	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Grimmia hartmanii	SN92090856	Mellte, east bank downstream of Cilhepste	27/10/2016	SDS Bosanquet
Grimmia hartmanii	SN92100858	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Grimmia hartmanii	SN92261056	Mellte, west bank Sgwd Isaf Clun-gwyn	20/12/2016	SDS Bosanquet
Grimmia hartmanii	SN92281063	Mellte, west bank Sgwd Isaf Clun-gwyn	20/12/2016	SDS Bosanquet
Grimmia hartmanii	SN923101	Coedydd Nedd a Mellte, Sgwd y Pannwr, downstream from	26/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN923103	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN923107	Coedydd Nedd a Mellte, Sgwd Clun Gwyn to Sgwd Isaf Clun Gwyn	26/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN92311030	Hepste-Mellte constraints compilation	-	
Grimmia hartmanii	SN92330960	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Grimmia hartmanii	SN92370952	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Grimmia hartmanii	SN924106	Coedydd Nedd a Mellte, Sgwd Clun Gwyn to Sgwd Isaf Clun Gwyn	26/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN924108	Coedydd Nedd a Mellte, Sgwd Clun Gwyn to Sgwd Isaf Clun Gwyn	26/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN924109	Coedydd Nedd a Mellte, Sgwd Clun Gwyn	27/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN92441083	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Grimmia hartmanii	SN92690992	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Grimmia hartmanii	SN92751001	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Grimmia hartmanii	SN92760997	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Grimmia hartmanii	SN92861000	Hepste-Mellte constraints compilation	-	
Grimmia hartmanii	SN92890998	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1994	Newton, M.E.
Grimmia hartmanii	SN929100	Coedydd Nedd a Mellte, Sgwd yr Eira	27/04/2012	Hodgetts, N.G.
Grimmia hartmanii	SN92970997	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Grimmia hartmanii	SN92980995	Hepste-Mellte constraints compilation	-	
Grimmia hartmanii	SN93020998	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley

Grimmia hartmanii	SN93110996	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Grimmia hartmanii	SN93140994	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Grimmia hartmanii	SN93240995	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Heterocladium wulfsbergii	SN924095	Coedydd Nedd a Mellte, Carn-y-Crochan	24/04/2012	Hodgetts, N.G.
Hygrobiella laxifolia	SN90	R Hepste	01/01/1909	Knight, H.H.
Hygrobiella laxifolia	SN93070996	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Hymenostylium recurvirostrum	SN92301060	Sgwd Isaf Clun-gwyn	2008	Orange, A
Hymenostylium recurvirostrum	SN92311061	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn	25/04/2012	Hodgetts, N.G.
Hymenostylium recurvirostrum	SN92890998	Sgwd yr Eira waterfall	21/08/2007	Orange, A
Isopterygiopsis pulchella	SN80	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	04/11/1971	Smith, A.J.E.
Isopterygiopsis pulchella	SN8909	Pont Nedd Fechan-Sgwd Gwladis waterfall	04/07/1993	Perry, A.R.
Isopterygiopsis pulchella	SN896094	Sgwd Gwladus, upstream	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Isopterygiopsis pulchella	SN919093	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1970	Barrow, M.D., Horrill, A.D.
Isopterygiopsis pulchella	SN92890998	Sgwd yr Eira waterfall	21/08/2007	Orange, A
Isothecium holtii	SN89720929	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Isothecium holtii	SN90921077	Hepste-Mellte constraints compilation	-	
Isothecium holtii	SN910108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Jamesoniella autumnalis	SN90150960	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Jamesoniella autumnalis	SN90160958	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Jamesoniella autumnalis	SN90160958	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Jamesoniella autumnalis	SN90270969	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Jamesoniella autumnalis	SN90300973	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Jamesoniella autumnalis	SN90601027	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90611025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90611025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90611026	Hepste-Mellte constraints compilation	-	
Jamesoniella autumnalis	SN90611027	below Pont Melin-fach	18/02/2011	Motley, G.S.
Jamesoniella autumnalis	SN90611027	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90611028	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90621030	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90621030	Hepste-Mellte constraints compilation	-	ME Newton

Jamesoniella autumnalis	SN90621031	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90641025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90641027	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90651033	Nedd-fechan	1986	RG Woods
Jamesoniella autumnalis	SN90661030	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90661031	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90671034	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90671034	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN90701035	Hepste-Mellte constraints compilation	-	ME Newton
Jamesoniella autumnalis	SN90711034	Nedd Fechan left bank	2014	Motley, G.S.
Jamesoniella autumnalis	SN90781040	Pont Melin-fach	13/04/1984	Woods, R.G.
Jamesoniella autumnalis	SN908103	Overhanging Ash Trunk, Pont Melin Fach nr Pontneddfechan	May 1980	RG Woods
Jamesoniella autumnalis	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Jamesoniella autumnalis	SN91001088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN91101136	nedd fechan	1986	Woods, R.G.
Jamesoniella autumnalis	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Jamesoniella autumnalis	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/03/1986	RG Woods
Jamesoniella autumnalis	SN91141195	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	01/03/1986	Woods, R.G.
Jamesoniella autumnalis	SN91191184	Nedd fechan	1986	RG Woods
Jamesoniella autumnalis	SN912129	Berthllwyd wood	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Jamesoniella autumnalis	SN91221165	Nedd fechan	1986	Woods, R.G.
Jamesoniella autumnalis	SN919088	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Jamesoniella autumnalis	SN91950878	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Jamesoniella autumnalis	SN92140917	up river of Gunpowder Works	13/03/2014	Motley, G.S.
Jamesoniella autumnalis	SN92141052	Clyngwyn, Brecknock; Woodland survey of whole site	14/05/1985	Ray Woods
Jamesoniella autumnalis	SN92181047	Mellte Valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92191042	Mellte Valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92200945	Hepste-Mellte constraints compilation	-	Newton, M.E.

Jamesoniella autumnalis	SN92201037	Mellte Valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN922101	Ruined building on west bank of the Afon Mellte below Sgwd y Pannwr	1994	ME Newton
Jamesoniella autumnalis	SN922103	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN922104	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn to Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN922105	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	14/05/1985	RG Woods
Jamesoniella autumnalis	SN92220942	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92231048	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn to Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN92261005	Hepste-Mellte constraints compilation	-	
Jamesoniella autumnalis	SN92261025	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92281036	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN92281055	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN92291029	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92291053	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN92301015	Mellte, west bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92301055	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Jamesoniella autumnalis	SN923099	Coedydd Nedd a Mellte, Sgwd y Panwr, downstream from	26/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN923100	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Jamesoniella autumnalis	SN923103	above Sgwd Pannwr	01/11/2012	Bosanquet, S.D.S. and Motley, G.S.
Jamesoniella autumnalis	SN923104	Sgwd pannwr above	10/03/2011	Motley G S
Jamesoniella autumnalis	SN923105	Afon Mellte (Sgwd Isaf Clun-Gwyn)	26/12/2016	Barry Stewart
Jamesoniella autumnalis	SN92341005	Mellte, east bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN92351008	Mellte, east bank downstream of Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Jamesoniella autumnalis	SN924095	Coedydd Nedd a Mellte, Carn-y-Crochan	24/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN924099	Coedydd Nedd a Mellte, Sgwd y Pannwr, downstream from	26/04/2012	Hodgetts, N.G.
Jamesoniella autumnalis	SN924106	Afon Mellte (above Sgwd Clun Gwyn Isaf)	26/12/2016	Barry Stewart
Jamesoniella autumnalis	SN92621175	Porth yr Ogof	01/01/1994	Newton, M.E.
Jubula hutchinsae	SN90960805	Hepste-Mellte constraints compilation	-	
Jubula hutchinsae	SN90980817	Hepste-Mellte constraints compilation	-	

Jubula hutchinsiae	SN909080	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Jubula hutchinsiae	SN90960811	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Jubula hutchinsiae	SN90970810	Streamside Rocks in Gorge, Pontneddfechan	24/04/1979	Woods, R.G.
Jubula hutchinsiae	SN918087	Afon Mellte (side valley)	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Jubula hutchinsiae	SN91950876	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Kurzia sylvatica	SN90	Afon Hepste,nr	06/05/1909	Knight, H.H.
Kurzia sylvatica	SN92890998	Sgwd yr Eira waterfall	21/08/2007	Orange, A
Kurzia trichoclados	SN90200961	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Lejeunea patens	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Lejeunea patens	SN89790920	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Lejeunea patens	SN90060927	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Lejeunea patens	SN90160958	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Lejeunea patens	SN90821037	near Pont Melin fach	1994	ME Newton
Lejeunea patens	SN90881073	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Lejeunea patens	SN91290790	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Lejeunea patens	SN923101	Coedydd Nedd a Mellte, Sgwd y Pannwr, downstream from	26/04/2012	Hodgetts, N.G.
Lejeunea patens	SN92391068	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Lejeunea patens	SN92431087	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Lejeunea patens	SN92481113	Coedydd Nedd a Mellte, Sgwd Clun Gwyn, upstream from	25/04/2012	Hodgetts, N.G.
Lepidozia cupressina	SN92271050	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92281048	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92281054	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92281055	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92281056	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92291049	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92291050	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92291051	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92291052	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92301046	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley

Lepidozia cupressina	SN92301049	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92301055	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN923104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	16/11/2008	Motley, G.S.
Lepidozia cupressina	SN92311046	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92311056	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Lepidozia cupressina	SN92311057	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Marchesinia mackaii	SN89970782	Nedd valley, Pontneddfechan	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Marsupella funckii	SN92461071	Mellte Valley, E side, above Sgwd Isaf Clyn Gwyn	13/03/2008	Bosanquet, S.D.S.
Odontoschisma denudatum	SN902088	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	February 1986	RG Woods
Odontoschisma denudatum	SN90681035	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Odontoschisma denudatum	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Odontoschisma denudatum	SN92181028	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Odontoschisma denudatum	SN92201026	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Odontoschisma denudatum	SN924101	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Plagiochila bifaria	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Plagiochila bifaria	SN89840901	Nedd-fechan west bank	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila bifaria	SN90040937	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila bifaria	SN90150960	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila bifaria	SN90150961	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila bifaria	SN90190962	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila bifaria	SN907104	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila bifaria	SN908106	Pont Melin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila bifaria	SN90891074	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila bifaria	SN909107	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila bifaria	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	SDS Bosanquet, GS Motley
Plagiochila bifaria	SN91960864	on or in the area of crag above chimney	18/02/2016	Bosanquet S D S, Motley G S
Plagiochila bifaria	SN92350967	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Plagiochila bifaria	SN924105	Afon Mellte (above Sgwd Clun Gwyn Isaf)	26/12/2016	Barry Stewart
Plagiochila bifaria	SN92690993	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Plagiochila bifaria	SN92700992	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Plagiochila britannica	SN90030923	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet

Plagiochila britannica	SN90060927	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila britannica	SN90360978	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila britannica	SN90791056	Hepste-Mellte constraints compilation	-	
Plagiochila britannica	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Plagiochila britannica	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/03/1986	Woods, R.G.
Plagiochila britannica	SN911139	Pwll-y-rhyd	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila britannica	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila britannica	SN912080	Craig y Ddinas north side	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Plagiochila britannica	SN913080	Craig y Ddinas north side	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Plagiochila britannica	SN914081	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Plagiochila britannica	SN91530803	Sychryd	20/01/2017	C Hipkin
Plagiochila britannica	SN916080	Sychryd Silica Works	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila britannica	SN923099	Hepste-Mellte constraints compilation	-	
Plagiochila britannica	SN923107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	06/03/1985	Woods, R.G.
Plagiochila britannica	SN92810999	Hepste-Mellte constraints compilation	-	
Plagiochila britannica	SN928123	Porth yr Ogof, upstream of	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila exigua	SN90080941	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila exigua	SN90150960	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila exigua	SN9129511791	Pont Rhyd-y-cnau, above	04/03/2011	Motley, G.S.
Plagiochila exigua	SN92850998	Hepste, Sgwd yr Eira	27/01/2017	SDS Bosanquet & GS Motley
Plagiochila punctata	SN90791053	Hepste-Mellte constraints compilation	-	
Plagiochila punctata	SN90881076	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila punctata	SN90891074	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila punctata	SN90891075	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila punctata	SN90981084	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila punctata	SN91001088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila punctata	SN91041096	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila punctata	SN91111120	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila punctata	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	RG Woods
Plagiochila punctata	SN92271034	Hepste-Mellte constraints compilation	-	
Plagiochila punctata	SN92281054	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley

Plagiochila punctata	SN92281057	below Sgwd Isaf Clun-gwyn	2008	Orange, A
Plagiochila punctata	SN92291053	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Plagiochila punctata	SN92301064	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn	25/04/2012	Hodgetts, N.G.
Plagiochila punctata	SN923103	above Sgwd Pannwr	01/11/2012	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila punctata	SN923106	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn	25/04/2012	Hodgetts, N.G.
Plagiochila punctata	SN93000997	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN900093	downstream from Horseshoe falls	1994	Newton, M.E.
Plagiochila spinulosa	SN90090942	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila spinulosa	SN90100946	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila spinulosa	SN901095	Hepste-Mellte constraints compilation	-	
Plagiochila spinulosa	SN90110946	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila spinulosa	SN90110947	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila spinulosa	SN90120948	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila spinulosa	SN90130947	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Plagiochila spinulosa	SN90130950	Nedd fechan	2011	GS Motley
Plagiochila spinulosa	SN90150952	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN90150957	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN90150960	Nedd fechan	2011	GS Motley
Plagiochila spinulosa	SN90150961	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN90230973	Nantyllechau	20/10/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN90340980	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/01/2009	GS Motley
Plagiochila spinulosa	SN90601030	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/01/2009	GS Motley
Plagiochila spinulosa	SN90611027	below Pont Melin-fach	18/02/2011	Motley, G.S.
Plagiochila spinulosa	SN90611028	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN90671034	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN90711034	Nedd Fechan left bank	2014	Motley, G.S.
Plagiochila spinulosa	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Plagiochila spinulosa	SN908106	just above Pont Melin-fach	1994	Newton, M.E.
Plagiochila spinulosa	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Plagiochila spinulosa	SN90951086	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Plagiochila spinulosa	SN91021088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley

Plagiochila spinulosa	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	RG Woods
Plagiochila spinulosa	SN912116	upstream from Pont Rhydycnau	04/03/2011	GS Motley
Plagiochila spinulosa	SN912118	woodland north of Tref-garn	1994	Newton, M.E.
Plagiochila spinulosa	SN912120	vicinity of Pwll-du	1994	Newton, M.E.
Plagiochila spinulosa	SN92181046	Mellte Valley, between Sgwd Isaf Clun-gwyn and Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Plagiochila spinulosa	SN922104	Afon Mellte	26/12/2016	Barry Stewart
Plagiochila spinulosa	SN92350965	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Plagiochila spinulosa	SN924105	Afon Mellte (above Sgwd Clun Gwyn Isaf)	26/12/2016	Barry Stewart
Plagiochila spinulosa	SN93130996	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Plasteurhynchium striatulum	SN9212	Porth-yr-Ogof,Afon Mellte	01/01/1973	Hughes, Miss F.R.
Platydictya jungermannioides	SN911124	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Platydictya jungermannioides	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Platydictya jungermannioides	SN92621175	Mellte, downstream of Porth yr Ogof	01/01/1994	Newton, M.E.
Pogonatum nanum	SN90661054	Heol Calch	24/02/2015	Motley, G S
Porella cordaeana	SN91101308	Berthllwyd wood	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Porella cordaeana	SN911137	Pwll-y-rhyd	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Porella cordaeana	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Ptilidium pulcherrimum	SN80	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	04/11/1971	AJE Smith
Ptilidium pulcherrimum	SN895095	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1978	Peterken
Ptilidium pulcherrimum	SN895096	Afon Pyrddin	01/04/1978	Woods, R.G.
Ptilidium pulcherrimum	SN897087	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	08/09/1971	Unknown CCW
Ptilidium pulcherrimum	SN901088	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	25/02/1986	RG Woods
Ptilidium pulcherrimum	SN90791051	Pont Melin-fach	13/04/1984	
Ptilidium pulcherrimum	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Ptilidium pulcherrimum	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/03/1986	RG Woods
Ptilidium pulcherrimum	SN91201198	Nedd Fechan	1986	RG Woods
Ptilidium pulcherrimum	SN919087	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	10/01/1985	Woods, R.G.
Ptilidium pulcherrimum	SN919093	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1970	AD Horrill;MD Barrow
Ptilidium pulcherrimum	SN923099	west wood near confluence of Hepste and Mellte	2012	Hodgetts, N.G.

Ptilidium pulcherrimum	SN924106	near Sgwd isaf Clun-gyn	00/2/2002	Motley, G.S.
Ptilidium pulcherrimum	SN92481113	Coedydd Nedd a Mellte, Sgwd Clun Gwyn, upstream from	25/04/2012	Hodgetts, N.G.
Rhytidiadelphus subpinnatus	SN898087	by River Neath, Glamorgan side	26/11/2008	Motley, G.S.
Rhytidiadelphus subpinnatus	SN898089	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	08/05/2007	GS Motley
Rhytidiadelphus subpinnatus	SN90050935	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Rhytidiadelphus subpinnatus	SN90110913	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Rhytidiadelphus subpinnatus	SN90601030	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/12/2009	Motley, G.S.
Rhytidiadelphus subpinnatus	SN90631029	Nedd-fechan	2011	GS Motley
Rhytidiadelphus subpinnatus	SN907103	Glyn Mercher Isaf	2015	Motley, G S
Rhytidiadelphus subpinnatus	SN90721039	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	15/12/2009	Motley, G.S.
Rhytidiadelphus subpinnatus	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Rhytidiadelphus subpinnatus	SN90831040	Nedd fechan	2011	G S Motley
Rhytidiadelphus subpinnatus	SN90851041	Nedd-fechan	2011	GS Motley
Rhytidiadelphus subpinnatus	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Rhytidiadelphus subpinnatus	SN910108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Rhytidiadelphus subpinnatus	SN91021084	Pont Melin Fach	09/05/2006	Motley, G.S.
Rhytidiadelphus subpinnatus	SN9102310841	Pont Melin-fach, Nedd Fechan	21/03/2007	Motley, G.
Rhytidiadelphus subpinnatus	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Rhytidiadelphus subpinnatus	SN912080	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Rhytidiadelphus subpinnatus	SN914081	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Rhytidiadelphus subpinnatus	SN91580818	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/02/2008	SDS Bosanquet
Rhytidiadelphus subpinnatus	SN91620819	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	27/02/2008	Sam Bosanquet
Rhytidiadelphus subpinnatus	SN91630824	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Rhytidiadelphus subpinnatus	SN91660820	Craig y Ddinas, Afon Mellte	27/02/2008	Bosanquet, S.D.S.
Rhytidiadelphus subpinnatus	SN91890838	Mellte upstream of wooden bridge	2008	Orange, A
Rhytidiadelphus subpinnatus	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Riccardia palmata	SN89700932	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Riccardia palmata	SN90040918	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Riccardia palmata	SN9009	Nedd Fechan Valley	30/04/2015	Charles and Hilary Hipkin
Riccardia palmata	SN90661032	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley

Riccardia palmata	SN91061093	Nedd-fechan, E bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Riccardia palmata	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Riccardia palmata	SN912080	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Riccardia palmata	SN914081	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	2002	G S Motley
Riccardia palmata	SN919088	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Riccardia palmata	SN921079	Clwyd-rhyd-fan valley	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Riccardia palmata	SN923099	Coedydd Nedd a Mellte, Sgwd y Panwr, downstream from	26/04/2012	Hodgetts, N.G.
Riccardia palmata	SN92390951	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Riccardia palmata	SN92451061	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Riccardia palmata	SN92520989	Hepste, lower reaches	27/10/2016	SDS Bosanquet
Riccardia palmata	SN93020998	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Riccardia palmata	SN93090994	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Riccia beyrichiana	SN8909	Afon Pyrddin	1963	BBS visit
Saccogyna viticulosa	SN895095	The Pyrddin Valley	1994	C.R. Hipkin
Saccogyna viticulosa	SN896094	Sgwd Gwladus, upstream	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Saccogyna viticulosa	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Saccogyna viticulosa	SN897092	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1995	Charles Hipkin
Saccogyna viticulosa	SN89790920	Afon Pyrddin, north bank	20/10/2016	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN898089	Nedd valley, Tonygilfach	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Saccogyna viticulosa	SN89970782	Nedd valley, Pontneddfechan	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Saccogyna viticulosa	SN90030923	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Saccogyna viticulosa	SN90040937	Nedd-fechan, upstream of confluence	20/10/2016	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN90050775	Nedd valley, Pontneddfechan	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Saccogyna viticulosa	SN90090942	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Saccogyna viticulosa	SN90100946	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Saccogyna viticulosa	SN901088	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	25/02/1986	Woods, R.G.
Saccogyna viticulosa	SN90180959	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Saccogyna viticulosa	SN907104	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Saccogyna viticulosa	SN90791051	Pont Melin-fach	13/04/1984	
Saccogyna viticulosa	SN908104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	1984	RG Woods

Saccogyna viticulosa	SN909081	Streamside Rocks in Gorge, Pontneddfechan	24/04/1979	Woods, R.G.
Saccogyna viticulosa	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Saccogyna viticulosa	SN90911082	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN90921075	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Saccogyna viticulosa	SN910081	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	24/04/1979	RG Woods
Saccogyna viticulosa	SN91021088	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN9107	Craig yDinas and Sychryd Valley	23/03/2016	Charles and Hilary Hipkin
Saccogyna viticulosa	SN911080	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Saccogyna viticulosa	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	RG Woods
Saccogyna viticulosa	SN91121123	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Saccogyna viticulosa	SN912115	Tref-garn	11/06/2013	Motley, G S
Saccogyna viticulosa	SN917083	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Saccogyna viticulosa	SN919087	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Saccogyna viticulosa	SN919088	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Saccogyna viticulosa	SN92020870	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Saccogyna viticulosa	SN921074	Upper Sychryd	13/04/2011	Motley, G.S.
Saccogyna viticulosa	SN921079	Clwyd-rhyd-fan valley	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Saccogyna viticulosa	SN922094	Coedydd Nedd a Mellte, Carn-y-crochan	24/04/2012	Hodgetts, N.G.
Saccogyna viticulosa	SN923104	Sgwd pannwr above	10/03/2011	Motley G S
Saccogyna viticulosa	SN923107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	06/03/1985	RG Woods
Saccogyna viticulosa	SN92350965	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN92370967	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN92390951	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN924109	Afon Mellte (Sgwd Clun-Gwyn)	04/12/2016	Barry Stewart
Saccogyna viticulosa	SN92460976	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN92481064	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/01/2017	Bosanquet, S.D.S. and Motley, G.S.
Saccogyna viticulosa	SN92491098	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN926099	Afon Hepste (below Sgwd yr Eira)	04/12/2016	Barry Stewart
Saccogyna viticulosa	SN92610995	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN926115	Hepste Mellte	01/09/1990	Woods, R.G.

Saccogyna viticulosa	SN92630985	Hepste, lower waterfall	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN92640988	Hepste, lower waterfall	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN92640994	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92660988	Hepste, lower waterfall	27/10/2016	SDS Bosanquet
Saccogyna viticulosa	SN92680991	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92690990	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92720994	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92730994	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92771003	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92890998	Sgwd yr Eira waterfall	21/08/2007	Orange, A
Saccogyna viticulosa	SN929100	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Saccogyna viticulosa	SN92940998	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Scapania gracilis	SN90100946	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Scapania gracilis	SN901088	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	25/02/1986	RG Woods
Scapania gracilis	SN90160958	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Scapania gracilis	SN90210966	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Scapania gracilis	SN90270969	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Scapania gracilis	SN90300973	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Scapania gracilis	SN90671034	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Scapania gracilis	SN90701035	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Scapania gracilis	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Scapania gracilis	SN908104	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	26/03/1980	RG Woods
Scapania gracilis	SN909107	Pont Melin-fach,above	13/04/1984	British Bryological Society meeting
Scapania gracilis	SN910130	Berthlwyd Farm	15/07/2004	Motley, G.S., Woods, R.G.
Scapania gracilis	SN91041100	Nedd-fechan, W bank upstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Scapania gracilis	SN911118	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1994	Newton, M.E.
Scapania gracilis	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	22/09/1986	RG Woods
Scapania gracilis	SN911125	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Scapania gracilis	SN911139	Pwll-y-rhyd	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.

Scapania gracilis	SN91191184	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	01/03/1986	Woods, R.G.
Scapania gracilis	SN912129	Berthllwyd wood	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Scapania gracilis	SN919087	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Scapania gracilis	SN920079	Clwyd-rhyd-fan valley	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Scapania gracilis	SN920090	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	11/09/1996 - 12/09/1996	Richard Mileto
Scapania gracilis	SN921091	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Scapania gracilis	SN92141052	Clyngwyn, Brecknock; Woodland survey of whole site	14/05/1985	Ray Woods
Scapania gracilis	SN92150917	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Scapania gracilis	SN92160914	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Scapania gracilis	SN92160918	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Scapania gracilis	SN922103	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Scapania gracilis	SN922105	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	14/05/1985	RG Woods
Scapania gracilis	SN92211027	Nant Clun-gwyn	20/12/2016	SDS Bosanquet
Scapania gracilis	SN92220942	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Scapania gracilis	SN92271032	Mellte, west bank Sgwd y Pannwr	20/12/2016	SDS Bosanquet
Scapania gracilis	SN92281034	Coedydd Nedd a Mellte, Sgwd y Pannwr	25/04/2012	Hodgetts, N.G.
Scapania gracilis	SN92291054	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN92301064	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn	25/04/2012	Hodgetts, N.G.
Scapania gracilis	SN923103	Afon Mellte (opposite Sgwd y Pannwr)	26/12/2016	Barry Stewart
Scapania gracilis	SN923104	Sgwd pannwr above	10/03/2011	Motley G S
Scapania gracilis	SN923105	Afon Mellte (Sgwd Isaf Clun-Gwyn)	04/12/2016	Barry Stewart
Scapania gracilis	SN923107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	06/03/1985	RG Woods
Scapania gracilis	SN92321055	Mellte, S of Sgwd Isaf Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN924108	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	12/07/1985	RG Woods
Scapania gracilis	SN924109	Coedydd Nedd a Mellte, Sgwd Clun Gwyn	27/04/2012	Hodgetts, N.G.
Scapania gracilis	SN92421063	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn	25/04/2012	Hodgetts, N.G.
Scapania gracilis	SN92430976	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Scapania gracilis	SN92431085	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN92451107	Mellte, west bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN925098	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton

Scapania gracilis	SN92520989	Hepste, lower reaches	27/10/2016	SDS Bosanquet
Scapania gracilis	SN926098	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	01/01/1985	Woods, R.G.
Scapania gracilis	SN926099	Afon Hepste (below Sgwd yr Eira)	04/12/2016	Barry Stewart
Scapania gracilis	SN92680993	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN92730995	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN92750997	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN92771003	Hepste north bank	27/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN929100	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Scapania gracilis	SN93030996	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Scapania subalpina	SN92370952	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet
Scapania umbrosa	SN901093	west bank below Horseshoe falls	1994	Newton, M.E.
Scapania umbrosa	SN923099	Coedydd Nedd a Mellte, Sgwd y Panwr, downstream from	26/04/2012	Hodgetts, N.G.
Seligeria acutifolia	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Seligeria acutifolia	SN911124	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Seligeria acutifolia	SN911138	Pwll-y-rhyd	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Seligeria acutifolia	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Seligeria acutifolia	SN913080	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Seligeria acutifolia	SN914079	south side of Sychryd	2008	Orange, A
Seligeria acutifolia	SN91500812	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Seligeria acutifolia	SN92640987	Hepste, lower waterfall	27/10/2016	SDS Bosanquet
Seligeria acutifolia	SN928123	Porth yr Ogof, upstream of	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Seligeria donniana	SN911124	Afon Nedd (below Dyffryn-Nedd)	14/12/2016	S.D.S. Bosanquet, C.R. Hipkin & B. Stewart
Seligeria donniana	SN91250800	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Seligeria donniana	SN916080	Sychryd Silica Works	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Seligeria pusilla	SN91	Afon Mellte	01/01/1963	Appleyard, J.
Seligeria pusilla	SN91101308	Berthllwyd Gorge north	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Seligeria pusilla	SN91181294	Berthllwyd Gorge south	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Seligeria pusilla	SN912080	Craig y Ddinas north side	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Seligeria pusilla	SN913080	Craig y Ddinas, Pontneddfechan	1999	Sam Bosanquet;Graham Motley

Seligeria pusilla	SN915081	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	November 1999	GS Motley;SDS Bosanquet
Solenostoma hyalinum	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Solenostoma hyalinum	SN917083	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Solenostoma hyalinum	SN92271054	Mellte, west bank Sgwd Isaf Clun-gwyn	20/12/2016	SDS Bosanquet
Solenostoma hyalinum	SN923107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	06/03/1985	RG Woods
Solenostoma hyalinum	SN924106	Coedydd Nedd a Mellte, Sgwd Clun Gwyn to Sgwd Isaf Clun Gwyn	26/04/2012	Hodgetts, N.G.
Solenostoma hyalinum	SN92451064	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Solenostoma paroicum	SN90360978	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Solenostoma paroicum	SN90791051	Pont Melin-fach	13/04/1984	
Solenostoma paroicum	SN909107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	13/04/1984	Woods, R.G.
Solenostoma paroicum	SN923107	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	06/03/1985	Woods, R.G.
Solenostoma paroicum	SN924095	Coedydd Nedd a Mellte, Carn-y-Crochan	24/04/2012	Hodgetts, N.G.
Sphagnum quinquefarium	SN89640931	Hepste-Mellte constraints compilation	-	
Sphagnum quinquefarium	SN89650925	Sgwd Gwladus	16/04/2010	Bosanquet, S.D.S., Motley, G.S.
Sphagnum quinquefarium	SN89650925	Sgwd Gwladys	29/06/2011	Hipkin, C.R., Stewart, B.
Sphagnum quinquefarium	SN898087	by River Neath, Glamorgan side	26/11/2008	Motley, G.S.
Sphagnum quinquefarium	SN898088	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	10/09/1996	Richard Mileto
Sphagnum quinquefarium	SN90180959	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Sphagnum quinquefarium	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Sphagnum quinquefarium	SN912115	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	09/09/1996	Woods, R.G.
Sphagnum quinquefarium	SN915081	Afon Mellte	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Sphagnum quinquefarium	SN916080	Sychryd Silica Works	09/12/2008	Bosanquet, S.D.S. and Motley, G.S.
Sphagnum quinquefarium	SN919077	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	14/09/1996	Richard Mileto
Sphagnum quinquefarium	SN919087	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Sphagnum quinquefarium	SN920090	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	11/09/1996 - 12/09/1996	Richard Mileto
Sphagnum quinquefarium	SN92020870	Gunpowder Works, Pontneddfechan	18/02/2016	Bosanquet S D S, Motley G S
Sphagnum quinquefarium	SN921074	Upper Sychryd	13/04/2011	Motley, G.S.
Sphagnum quinquefarium	SN922091	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	13/09/1996 - 14/09/1996	Richard Mileto
Sphagnum quinquefarium	SN92301064	Coedydd Nedd a Mellte, Sgwd Isaf Clun Gwyn	25/04/2012	Hodgetts, N.G.
Sphagnum quinquefarium	SN92370967	Mellte, east bank Cilhepste	27/10/2016	SDS Bosanquet

Sphagnum quinquefarium	SN925100	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	13/09/1996	Richard Mileto
Sphagnum quinquefarium	SN92680993	Hepste down stream of Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Sphagnum quinquefarium	SN92690990	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Sphagnum quinquefarium	SN92720992	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Sphagnum quinquefarium	SN93050994	Hepste valley above Sgwd y Eira	27/01/2017	SDS Bosanquet & GS Motley
Sphenolobopsis pearsonii	SN92760995	Hepste south bank	27/01/2017	SDS Bosanquet & GS Motley
Sphenolobopsis pearsonii	SN92780997	Hepste-Mellte constraints compilation	-	
Tetrodontium brownianum	SN80	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	04/11/1971	AJE Smith
Tetrodontium brownianum	SN89000935	Afon Pyrddin	May 2000	Sam Bosanquet;Graham Motley
Tetrodontium brownianum	SN8960509257	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Tetrodontium brownianum	SN89640931	Hepste-Mellte constraints compilation	-	
Tetrodontium brownianum	SN90210962	Nedd Fechan valley, Glan-yr-afon	07/09/2016	SDS Bosanquet
Tetrodontium brownianum	SN918087	Afon Mellte (side valley)	04/03/2016	SDSB, CRH, BS, PS, GMT & KW
Tetrodontium brownianum	SN91930877	stream gully and wooded slope ne of Gunpowder works	18/02/2016	Bosanquet S D S, Motley G S
Tetrodontium brownianum	SN92311030	Hepste-Mellte constraints compilation	-	
Thuidium assimile	SN910136	Porth y Rhyd, Nedd Fechan valley	24/11/1999	Bosanquet, S.D.S.
Thuidium assimile	SN91101308	Berthllwyd hayfield SW	19/03/2010	Bosanquet, S.D.S. and Motley, G.S.
Tritomaria exsectiformis	SN90611025	Nedd-fechan, W bank downstream of Pont-melin-fach	09/12/2016	SDS Bosanquet & GS Motley
Tritomaria exsectiformis	SN90611027	below Pont Melin-fach	18/02/2011	Motley, G.S.
Tritomaria exsectiformis	SN90621030	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	January 1994 - March 1994	ME Newton
Tritomaria exsectiformis	SN90791051	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	13/04/1984	Woods, R.G.
Tritomaria exsectiformis	SN90791051	Nedd Fechan valley, right bank	24/02/2015	Motley, G S
Tritomaria exsectiformis	SN909108	Nedd valley, east bank upstream of Pontmelin-fach	27/04/2010	Bosanquet, S.D.S. and Motley, G.S.
Tritomaria exsectiformis	SN911121	Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI	19/03/1986	Woods, R.G.
Tritomaria exsectiformis	SN91141195	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	01/03/1986	Woods, R.G.
Tritomaria exsectiformis	SN92471106	Mellte, east bank Sgwd Clun-gwyn	19/01/2017	SDS Bosanquet & GS Motley
Tritomaria exsectiformis	SN92471110	Dyffrynoedd Nedd a Mellte, a Moel Penderyn	19/01/2017	Bosanquet, S.D.S. and Motley, G.S.
Tritomaria exsectiformis	SN92471113	upstream of Sgwd Clyn-gwyn	2008	Orange, A
Ulota calvescens	SN91361407	Blaen Nedd-isaf	2014	Motley, G.S.

Appendix 2

Full list of bryophytes recorded from Coedydd Nedd a Mellte SAC and its constituent SSSI

All of the records that underpin this list have already been sent to the Local Biological Records Centre and the British Bryological Society, and are available on the National Biodiversity Network. **Please do not waste time re-inputting them!**

Taxon	Group	Oceanicity	Atlantic/Western	National status	Coedydd Nedd a Mellte SAC	Blaen Nedd SSSI	Dyffrynnoedd Nedd a Mellte SSSI
Aloina aloides	moss				y		y
Amblystegium confervoides	moss			Nationally Scarce	y	y	y
Amblystegium serpens	moss				y		y
Amblystegium serpens var. serpens	moss				y		y
Amphidium mougeotii	moss				y		y
Anastrophyllum hellerianum	liverwort			Nationally Scarce	y		y
Anastrophyllum minutum	liverwort			Local rarity	y		y
Andreaea rothii subsp. falcata	moss				y		y
Aneura pinguis	liverwort				y	y	y
Anoectangium aestivum	moss				y		y
Anomobryum concinnatum	moss			Nationally Scarce	y		y
Anomobryum julaceum	moss				y		y
Anomodon viticulosus	moss				y	y	y
Aphanolejeunea microscopica	liverwort	Hyperoceanic	Strictly Atlantic	Local rarity	y		y
Archidium alternifolium	moss				y		y
Atrichum undulatum	moss				y	y	y
Aulacomnium palustre	moss					y	
Barbilophozia attenuata	liverwort			local interest	y	y	y

Barbilophozia floerkei	liverwort				y		y
Barbula convoluta	moss				y		y
Barbula unguiculata	moss				y		y
Bartramia halleriana	moss			Nationally Scarce	y		y
Bartramia ithyphylla	moss			local interest	y		y
Bartramia pomiformis	moss				y		y
Bazzania trilobata	liverwort	Suboceanic	Western British	Local rarity	y		y
Blepharostoma trichophyllum	liverwort			local interest	y		y
Blindia acuta	moss				y		y
Brachydontium trichodes	moss			Nationally Scarce	y		y
Brachythecium glareosum	moss				y	y	y
Brachythecium rivulare	moss				y	y	y
Brachythecium rutabulum	moss				y	y	y
Breutelia chrysocoma	moss	Hyperoceanic	Sub-Atlantic		y		y
Bryoerythrophyllum recurvirostrum	moss				y		y
Bryum alpinum	moss				y		y
Bryum capillare var. capillare	moss				y	y	y
Bryum dichotomum	moss				y		y
Bryum mildeanum	moss			Nationally Rare			y
Bryum pallens	moss				y		y
Bryum pseudotriquetrum s.l.	moss				y	y	y
Bryum radiculosum	moss				y		y
Bryum rubens	moss				y		y
Bryum torquescens	moss			Nationally Scarce	y		y
Calliergon giganteum	moss				y		y
Calliergon stramineum	moss				y		y
Calliergonella cuspidata	moss				y	y	y
Calliergonella lindbergii	moss				y		y
Calypogeia arguta	liverwort		Sub-Atlantic		y	y	y
Calypogeia fissa	liverwort	Suboceanic			y	y	y
Calypogeia muelleriana	liverwort				y	y	y

Campyliadelphus chrysophyllus	moss						y
Campylium protensum	moss			local rarity	y	y	y
Campylium stellatum	moss				y		y
Campylopus flexuosus	moss	Suboceanic	Sub-Atlantic		y	y	y
Campylopus fragilis	moss	Suboceanic			y		y
Campylopus introflexus	moss				y	y	y
Campylopus pyriformis	moss	Suboceanic			y		y
Campylopus subulatus	moss	Suboceanic		Nationally Scarce	y		y
Cephalozia bicuspidata	liverwort				y	y	y
Cephalozia catenulata	liverwort			local rarity	y		y
Cephalozia lunulifolia	liverwort			local rarity	y		y
Cephaloziella divaricata	liverwort				y	y	y
Ceratodon purpureus	moss				y		y
Chiloscyphus pallescens	liverwort				y		y
Chiloscyphus polyanthos	liverwort				y	y	y
Cinclidotus fontinaloides	moss				y		y
Cirriphyllum crassinervium	moss				y	y	y
Cirriphyllum piliferum	moss				y	y	y
Climacium dendroides	moss				y	y	y
Cololejeunea calcarea	liverwort	Suboceanic	Western British	local rarity	y	y	y
Cololejeunea minutissima	liverwort	Hyperoceanic		local rarity	y		y
Colura calyptrifolia	liverwort	Hyperoceanic			y		y
Conocephalum conicum	liverwort				y		y
Conocephalum salebrosum	liverwort				y	y	y
Cratoneuron filicinum	moss				y	y	y
Cryphaea heteromalla	moss				y		y
Ctenidium molluscum var. condensatum	moss			local rarity	y		y
Ctenidium molluscum var. molluscum	moss				y	y	y
Ctenidium molluscum var. sylvaticum	moss			local rarity	y		y
Cynodontium bruntonii	moss			local interest	y		y
Daltonia splachnoides	moss	Hyperoceanic		Nationally Rare	y		y

Dichodontium flavescens	moss			local rarity	y	y	
Dichodontium palustre	moss				y		y
Dichodontium pellucidum	moss				y		y
Dicranella heteromalla	moss				y	y	y
Dicranella rufescens	moss				y		y
Dicranella subulata	moss			local rarity	y		y
Dicranella varia	moss				y		y
Dicranodontium denudatum	moss		Western British		y		y
Dicranoweisia cirrata	moss				y	y	y
Dicranum flagellare	moss			Nationally Scarce	y		y
Dicranum fuscescens	moss			local interest	y	y	y
Dicranum majus	moss				y	y	y
Dicranum montanum	moss			local rarity	y		y
Dicranum scoparium	moss				y	y	y
Dicranum tauricum	moss			local rarity	y		y
Didymodon fallax	moss				y		y
Didymodon ferrugineus	moss			local rarity	y		y
Didymodon insulanus	moss				y	y	y
Didymodon rigidulus	moss				y	y	y
Didymodon sinuosus	moss			local rarity	y		y
Didymodon spadiceus	moss				y	y	y
Didymodon tophaceus	moss			local rarity	y		y
Didymodon vinealis	moss			local rarity	y		y
Diphyscium foliosum	moss				y		y
Diplophyllum albicans	liverwort	Suboceanic			y	y	y
Distichium capillaceum	moss			local rarity	y		y
Ditrichum gracile	moss				y	y	y
Ditrichum heteromallum	moss				y		y
Drepanolejeunea hamatifolia	liverwort	Hyperoceanic	Strictly Atlantic	local rarity	y		y
Encalypta streptocarpa	moss				y	y	y
Encalypta vulgaris	moss			local rarity	y		y

Entosthodon obtusus	moss		Sub-Atlantic	local rarity	y		y
Eucladium verticillatum	moss				y	y	y
Eurhynchium striatum	moss				y	y	y
Fissidens adianthoides	moss				y	y	y
Fissidens bryoides var. bryoides	moss				y	y	y
Fissidens bryoides var. cespitans	moss	Oceanic			y		y
Fissidens celticus	moss	Oceanic	Strictly Atlantic		y		y
Fissidens dubius	moss				y	y	y
Fissidens exilis	moss			local rarity	y		y
Fissidens gracilifolius	moss			local rarity	y	y	y
Fissidens incurvus	moss			local rarity	y		y
Fissidens osmundoides	moss				y		y
Fissidens pusillus	moss				y		y
Fissidens rivularis	moss			Nationally Scarce	y		y
Fissidens rufulus	moss			Nationally Scarce	y	y	y
Fissidens taxifolius subsp. taxifolius	moss				y		y
Fissidens viridulus	moss				y		y
Fontinalis antipyretica var. antipyretica	moss				y		y
Fontinalis antipyretica var. gracilis	moss				y		y
Fontinalis squamosa var. squamosa	moss	Suboceanic	Sub-Atlantic		y		y
Frullania dilatata	liverwort				y	y	y
Frullania fragilifolia	liverwort	Suboceanic	Western British	local rarity	y		y
Frullania tamarisci	liverwort	Suboceanic			y	y	y
Grimmia hartmanii	moss		Western British	local rarity	y		y
Grimmia pulvinata	moss				y		y
Gymnocolea inflata	liverwort				y	y	y
Gymnostomum aeruginosum	moss				y	y	y
Heterocladium heteropterum var. flaccidum	moss	Suboceanic	Sub-Atlantic		y		y
Heterocladium heteropterum var. heteropterum	moss	Suboceanic	Sub-Atlantic		y	y	y
Heterocladium wulfsbergii	moss	Oceanic		Nationally Scarce	y		y

Homalia trichomanoides	moss				y	y	y
Homalothecium lutescens	moss				y		y
Homalothecium sericeum	moss				y	y	y
Hookeria lucens	moss	Suboceanic	Sub-Atlantic		y		y
Hygroamblystegium fluviatile	moss				y		y
Hygroamblystegium tenax	moss				y	y	y
Hygrobiella laxifolia	liverwort	Suboceanic		local rarity	y		y
Hygrohypnum luridum var. luridum	moss				y	y	y
Hygrohypnum ochraceum	moss				y		y
Hylocomium splendens	moss				y		y
Hymenostylium recurvirostrum	moss			local rarity	y		y
Hyocomium armoricum	moss	Oceanic	Sub-Atlantic		y		y
Hypnum andoi	moss	Suboceanic			y	y	y
Hypnum cupressiforme var. cupressiforme	moss				y	y	y
Hypnum cupressiforme var. resupinatum	moss		Sub-Atlantic		y		y
Hypnum jutlandicum	moss	Suboceanic			y	y	y
Hypnum lacunosum var. lacunosum	moss				y		y
Isopterygiopsis pulchella	moss			local rarity	y		y
Isothecium alopecuroides	moss				y	y	y
Isothecium holtii	moss	Oceanic	Strictly Atlantic		y		y
Isothecium myosuroides var. myosuroides	moss	Suboceanic			y	y	y
Jamesoniella autumnalis	liverwort			Nationally Scarce	y	y	y
Jubula hutchinsae	liverwort	Hyperoceanic	Strictly Atlantic	local rarity	y		y
Jungermannia atrovirens	liverwort				y	y	y
Jungermannia exsertifolia	liverwort			local interest	y	y	y
Jungermannia pumila	liverwort				y		y
Kindbergia praelonga	moss				y	y	y
Kurzia pauciflora	liverwort	Suboceanic			y		y
Kurzia sylvatica	liverwort	Suboceanic		local rarity	y		y
Kurzia trichoclados	liverwort			local rarity	y		y
Leiocolea badensis	liverwort				y		y

Leiocolea bantriensis	liverwort				y		y
Leiocolea collaris	liverwort				y		y
Leiocolea turbinata	liverwort				y	y	y
Lejeunea cavifolia	liverwort			local interest	y	y	y
Lejeunea lamacerina	liverwort	Hyperoceanic	Strictly Atlantic	local interest	y		y
Lejeunea patens	liverwort	Hyperoceanic	Sub-Atlantic	local interest	y		y
Lepidozia cupressina	liverwort	Hyperoceanic	Strictly Atlantic	local rarity	y		y
Lepidozia reptans	liverwort				y	y	y
Leucobryum juniperoideum	moss			local rarity	y		y
Loeskeobryum brevirostre	moss			local interest	y	y	y
Lophocolea bidentata	liverwort				y	y	y
Lophocolea heterophylla	liverwort				y	y	y
Lophozia incisa	liverwort			local interest	y		y
Lophozia ventricosa	liverwort				y	y	y
Lunularia cruciata	liverwort				y		y
Marchantia polymorpha subsp. polymorpha	liverwort				y		y
Marchesinia mackaii	liverwort	Oceanic	Strictly Atlantic	local rarity	y		y
Marsupella emarginata var. aquatica	liverwort				y		y
Marsupella emarginata var. emarginata	liverwort				y		y
Marsupella funckii	liverwort	Suboceanic	Western British	local rarity	y		y
Metzgeria conjugata	liverwort		Western British	local interest	y	y	y
Metzgeria consanguinea	liverwort	Suboceanic	Sub-Atlantic	local interest	y	y	y
Metzgeria furcata	liverwort				y	y	y
Metzgeria violacea	liverwort	Suboceanic		local interest	y	y	y
Microlejeunea ulicina	liverwort	Suboceanic	Sub-Atlantic	local interest	y		y
Mnium hornum	moss				y	y	y
Mnium marginatum var. marginatum	moss				y	y	y
Mnium stellare	moss				y	y	y
Nardia scalaris	liverwort				y		y
Neckera complanata	moss				y	y	y
Neckera crispa	moss				y	y	y

Neckera pumila	moss	Suboceanic			y		y
Nowellia curvifolia	liverwort		Western British		y	y	y
Odontoschisma denudatum	liverwort			local rarity	y		y
Orthodontium lineare	moss				y		y
Orthothecium intricatum	moss	Suboceanic		local rarity	y	y	y
Orthotrichum affine	moss				y	y	y
Orthotrichum anomalum	moss				y		y
Orthotrichum cupulatum	moss				y		y
Orthotrichum diaphanum	moss				y		y
Orthotrichum lyellii	moss	Suboceanic			y		y
Orthotrichum pulchellum	moss	Oceanic	Sub-Atlantic		y	y	y
Orthotrichum stramineum	moss				y		y
Orthotrichum striatum	moss				y	y	y
Oxyrrhynchium hians	moss				y	y	y
Oxyrrhynchium pumilum	moss				y		y
Oxystegus tenuirostris var. holtii	moss		Western British		y		y
Oxystegus tenuirostris var. tenuirostris	moss		Western British		y		y
Palustriella commutata var. commutata	moss				y	y	y
Palustriella commutata var. falcata	moss				y		y
Pellia endiviifolia	liverwort				y	y	y
Pellia epiphylla	liverwort				y	y	y
Pellia neesiana	liverwort				y		y
Philonotis calcarea	moss				y		y
Philonotis fontana	moss				y		y
Physcomitrium pyriforme	moss				y		y
Plagiochila asplenioides	liverwort				y	y	y
Plagiochila bifaria	liverwort	Hyperoceanic	Strictly Atlantic	local rarity	y		y
Plagiochila britannica	liverwort	Suboceanic			y	y	y
Plagiochila exigua	liverwort	Hyperoceanic	Strictly Atlantic	local rarity	y		y
Plagiochila porelloides	liverwort				y	y	y
Plagiochila punctata	liverwort	Hyperoceanic	Strictly Atlantic	local rarity	y		y

Plagiochila spinulosa	liverwort	Hyperoceanic	Sub-Atlantic	local interest	y		y
Plagiomnium affine	moss				y	y	y
Plagiomnium cuspidatum	moss				y	y	
Plagiomnium rostratum	moss				y	y	y
Plagiomnium undulatum	moss				y	y	y
Plagiothecium curvifolium	moss			local rarity	y		y
Plagiothecium denticulatum var. denticulatum	moss				y	y	y
Plagiothecium nemorale	moss				y		y
Plagiothecium succulentum	moss				y	y	y
Plagiothecium undulatum	moss	Suboceanic			y	y	y
Platydictya jungermannioides	moss			Nationally Scarce	y		y
Platyhypnidium riparioides	moss				y	y	y
Pleuridium acuminatum	moss				y		y
Pleuridium subulatum	moss				y		y
Pleurozium schreberi	moss				y	y	y
Pogonatum aloides	moss				y	y	y
Pogonatum urnigerum	moss				y		y
Pohlia annotina	moss				y		y
Pohlia cruda	moss				y		y
Pohlia melanodon	moss				y		y
Pohlia nutans	moss				y		y
Pohlia wahlenbergii var. wahlenbergii	moss				y		y
Polytrichum commune var. commune	moss				y	y	y
Polytrichum formosum	moss				y	y	y
Polytrichum juniperinum	moss				y	y	y
Polytrichum piliferum	moss				y	y	y
Porella cordaeana	liverwort			local rarity	y	y	
Porella platyphylla	liverwort				y	y	y
Preissia quadrata	liverwort				y		y
Pseudephemerum nitidum	moss				y		y

Pseudocrossidium hornschuchianum	moss						y
Pseudotaxiphyllum elegans	moss	Suboceanic			y	y	y
Ptilidium ciliare	liverwort				y	y	y
Ptilidium pulcherrimum	liverwort			local rarity	y		y
Ptychomitrium polyphyllum	moss	Oceanic	Sub-Atlantic		y		y
Racomitrium aciculare	moss	Suboceanic			y		y
Racomitrium affine	moss				y		y
Racomitrium aquaticum	moss	Suboceanic			y		y
Racomitrium ericoides	moss	Suboceanic			y		y
Racomitrium fasciculare	moss				y		y
Racomitrium heterostichum	moss	Suboceanic			y		y
Racomitrium lanuginosum	moss				y	y	y
Radula complanata	liverwort				y	y	y
Reboulia hemisphaerica	liverwort				y	y	y
Rhabdoweisia crispata	moss	Suboceanic		local rarity	y		y
Rhabdoweisia fugax	moss			local rarity	y		y
Rhizomnium punctatum	moss				y	y	y
Rhynchostegiella tenella	moss				y	y	y
Rhynchostegiella teneriffae	moss				y	y	y
Rhynchostegium confertum	moss				y		y
Rhynchostegium murale	moss				y		y
Rhytidiadelphus loreus	moss	Suboceanic			y	y	y
Rhytidiadelphus squarrosus	moss				y	y	y
Rhytidiadelphus subpinnatus	moss			Nationally Scarce	y	y	y
Rhytidiadelphus triquetrus	moss				y	y	y
Riccardia chamedryfolia	liverwort		Western British		y		y
Riccardia multifida	liverwort				y		y
Riccardia palmata	liverwort		Western British	local rarity	y	y	y
Riccia beyrichiana	liverwort	Suboceanic		Nationally Scarce	y		y
Riccia sorocarpa	liverwort				y		y
Saccogyna viticulosa	liverwort	Oceanic	Strictly Atlantic		y		y

Sanionia uncinata	moss				y	y	y
Scapania aspera	liverwort			local interest	y	y	y
Scapania compacta	liverwort		Western British		y		y
Scapania gracilis	liverwort	Hyperoceanic	Sub-Atlantic		y	y	y
Scapania irrigua	liverwort				y	y	y
Scapania nemorea	liverwort				y	y	y
Scapania scandica	liverwort						y
Scapania subalpina	liverwort			local rarity	y		y
Scapania umbrosa	liverwort		Western British	local rarity	y		y
Scapania undulata	liverwort				y	y	y
Schistidium apocarpum	moss				y	y	y
Schistidium crassipilum	moss				y	y	y
Schistidium platyphyllum	moss				y		y
Schistidium rivulare	moss				y	y	y
Sciuro-hypnum plumosum	moss				y	y	y
Sciuro-hypnum populeum	moss				y	y	y
Scleropodium purum	moss				y	y	y
Seligeria acutifolia	moss			Nationally Scarce	y	y	y
Seligeria donniana	moss			Nationally Scarce	y		y
Seligeria pusilla	moss			Nationally Scarce	y	y	y
Seligeria recurvata	moss				y		y
Solenostoma gracillimum	liverwort				y	y	y
Solenostoma hyalinum	liverwort			local rarity	y		y
Solenostoma paroicum	liverwort	Oceanic		local rarity	y		y
Solenostoma obovatum	liverwort			local interest	y		y
Solenostoma sphaerocarpum	liverwort				y		y
Sphagnum angustifolium	moss				y		y
Sphagnum capillifolium subsp. rubellum	moss				y		y
Sphagnum compactum	moss					y	
Sphagnum cuspidatum	moss				y		y
Sphagnum denticulatum	moss				y	y	y

Sphagnum fimbriatum	moss				y	y	y
Sphagnum flexuosum	moss				y		y
Sphagnum inundatum	moss				y		y
Sphagnum palustre var. palustre	moss				y		y
Sphagnum quinquefarium	moss	Suboceanic	Western British		y		y
Sphagnum squarrosum	moss				y		y
Sphagnum subnitens var. subnitens	moss	Suboceanic			y	y	y
Sphagnum tenellum	moss					y	
Sphenolobopsis pearsonii	liverwort	Suboceanic		Nationally Scarce	y		y
Syntrichia montana	moss				y		y
Taxiphyllum wissgrillii	moss			local interest	y	y	y
Tetraphis pellucida	moss				y	y	y
Tetrodontium brownianum	moss	Suboceanic	Sub-Atlantic	local rarity	y		y
Thamnobryum alopecurum	moss				y	y	y
Thuidium assimile	moss			local rarity	y	y	
Thuidium delicatulum	moss		Western British		y		y
Thuidium tamariscinum	moss				y	y	y
Tortella tortuosa	moss				y	y	y
Tortula muralis	moss				y	y	y
Tortula subulata	moss				y	y	
Trichocolea tomentella	liverwort			local interest	y		y
Trichodon cylindricus	moss				y		y
Trichostomum brachydontium	moss				y		y
Trichostomum crispulum	moss				y	y	y
Tritomaria exsectiformis	liverwort			local rarity	y		y
Ulota bruchii	moss				y	y	y
Ulota calvescens	moss	Oceanic		Nationally Scarce		y	
Ulota crispa	moss				y	y	y
Ulota phyllantha	moss	Oceanic	Sub-Atlantic		y		y
Weissia brachycarpa	moss				y		y
Weissia controversa var. controversa	moss				y		y

Zygodon conoideus	moss	Oceanic	Sub-Atlantic		y	y	y
Zygodon rupestris	moss				y		y
Zygodon viridissimus var. stirtonii	moss				y	y	y
Zygodon viridissimus var. viridissimus	moss				y		y
				Taxon count:	353	156	352

Campylophyllum calcareum	moss	Nationally Scarce	outside SSSI
Didymodon luridus	moss	local rarity	outside SSSI
Funaria hygrometrica	moss		outside SSSI
Plasteurhynchium striatulum	moss	Nationally Scarce	outside SSSI
Pogonatum nanum	moss	local rarity	outside SSSI
Riccia glauca	liverwort		outside SSSI