

Natural England Commissioned Report NECR342

Assessment of population stability and sustainability of rare / scarce vascular plants- West Penwith Moors, Cornwall (2016)

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Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England.

Background - Natural England is gathering evidence to support the potential notification of key areas of semi-natural habitat in the West Penwith Moors area of west Cornwall as a Site of Special Scientific Interest (SSSI). Habitat and specialist species surveys are being commissioned within the overall area.

This report should be cited as: FRENCH, C. & BENNALLICK, I. 2016. Assessment of population stability and sustainability of rare / scarce vascular plants, West Penwith Moors, Cornwall.

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Keywords – Penwith, SSSI, survey, NVC, habitat.

Further information

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Preface

(by Mark Beard, Natural England; Devon, Cornwall & Isles of Scilly Team)

Dr Colin French, Recorder for the Botanical Society of Britain and Ireland (BSBI), West Cornwall (Vice County 1) and Ian Bennallick, Recorder for the BSBI, East Cornwall (VC 2), were commissioned by Natural England in February 2016 to collate and review vascular plant records for West Penwith. The purpose of the exercise was to identify taxa which may qualify as an SSSI feature under the selection guidelines for SSSIs (Chapter 11, Vascular plants) for further analysis and consideration.

Taxa were selected for analysis on the basis of being nationally rare, nationally scarce or threatened in the GB or England context (Red Lists), or of local interest, and having been recorded in West Penwith, within or close to the provisional SSSI boundary being considered at the time. This equates to a total of 22 taxa, summarised in Table 1.

Data was extracted from the [ERICA database](#), administered by the [Cornish Biodiversity Network](#). All records were extracted for each taxa from the earliest record up to contemporary records as of early 2016.

For each taxa identified, a brief analysis was provided based upon the authors' knowledge and experience of the relative significance of the West Penwith population in the wider Cornwall context, along with an indication of known population trend and likely sustainability/viability of that population. In some instances a view on the likelihood of a taxa having been introduced to West Penwith was also offered. A distribution map was provided to illustrate the West Penwith population in the wider geographical context of Cornwall.

Any site numbering referred to in the text relates to those survey areas identified by Natural England for NVC vegetation surveys between 2012 and 2014.

Table 1: taxa identified for analysis in this report

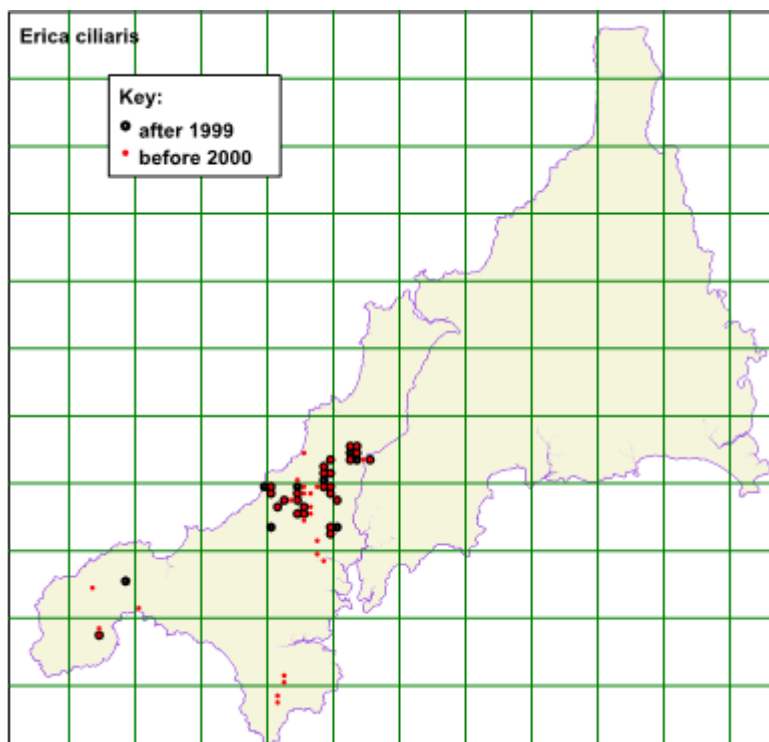
Scientific name	English name	Highest conservation status (as of 2016)
<i>Erica ciliaris</i>	Dorset heath	Nationally Rare
<i>Illecebrum verticillatum</i>	coral-necklace	Nationally Rare
<i>Allium ampeloprasum</i> var. <i>babingtonii</i>	wild leek / Babington's leek	Nationally Scarce
<i>Asplenium obovatum</i> subsp. <i>lanceolatum</i>	lanceolate spleenwort	Nationally Scarce
<i>Calystegia sepium</i> subsp. <i>roseate</i>	hedge bindweed (scarce sub-species)	Nationally Scarce
<i>Cicendia filiformis</i>	yellow centaury	Nationally Scarce
<i>Mentha suaveolens</i>	round-leafed mint	Nationally Scarce
<i>Pilularia globulifera</i>	pillwort	Nationally Scarce
<i>Sibthorpia europaea</i>	Cornish moneywort	Nationally Scarce
<i>Viola lactea</i>	pale dog-violet	Nationally Scarce
<i>Viola palustris</i> subsp. <i>juressi</i>	marsh violet (scarce sub-species)	Nationally Scarce
<i>Chamaemelum nobile</i>	common chamomile	Vulnerable (GB)
<i>Cuscuta epithymum</i>	common dodder	Vulnerable (GB)
<i>Anagallis minima</i>	chaffweed	Endangered (England)
<i>Galium uliginosum</i>	fen bedstraw	Local interest
<i>Hymenophyllum wilsonii</i>	Wilson's filmy-fern	Near Threatened (GB)
<i>Radiola linoides</i>	allseed	Vulnerable (England)
<i>Sagina subulata</i>	heath pearlwort	Near Threatened (England)
<i>Scleranthus annuus</i> subsp. <i>annuus</i>	annual knawel	Endangered (GB)
<i>Trichomanes speciosum</i>	Killarney fern	Nationally Rare / Sch 8*
<i>Utricularia minor</i>	lesser bladderwort	Vulnerable (England)
<i>Wahlenbergia hederacea</i>	ivy-leaved bellflower	Near Threatened (GB)

*species given special protection as listed under Schedule 8 of the Wildlife & Countryside Act (as amended)

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Erica ciliaris

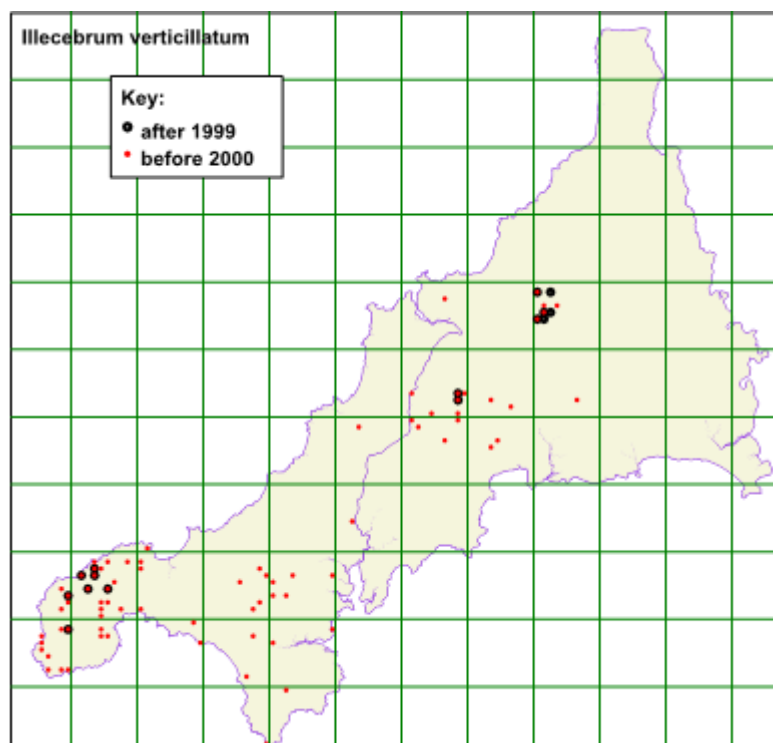
Erica ciliaris is now known from two sites in West Penwith, Chy-an-hal Moor SSSI (where it was planted circa 100 years ago) and Noon Digery. Historically it was also recorded at Marazion Marsh, where it was planted, and at Ding Dong in 1889. The recent discovery at Noon Digery was made in 2012 when a small area about 2ft square was found at a spot where it was unlikely to have been planted and instead was likely to have been an accidental introduction. The site is managed by Cornwall Wildlife Trust who also manage sites containing *Erica ciliaris* so it may well have been introduced by cross-contamination. The population at Noon Digery is very small, however, the plants were very healthy and the population is considered to be viable and may well increase. Nevertheless, the population is considered to be covering too small an area to be sustainable as the whole population could easily be wiped out by fire. Given the small population size and its questionable provenance it is probably best not to include *Erica ciliaris* in the SSSI notification other than to acknowledge its presence and to monitor it. A high degree of confidence applies to this assessment.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Illecebrum verticillatum

In Britain *Illecebrum verticillatum* is largely restricted to Hampshire and Cornwall, and is considered to be native only in Cornwall (source the Cornish Red Data Book), where there are localised populations on Bodmin Moor, the mid-Cornwall moors and in West Penwith.



At site 4, Tredinney Common, it has been repeatedly found in very small numbers and should be considered a sustainable and conservable population. It was not found during the 2013, however, as it can disappear during the summer its absence in July 2013 is not unexpected. High confidence.

At site 21, Woon Gumpus Common, a healthy population persists, sometimes appearing in different parts of the site. It is often found where a shallow stream crosses a heathland track. High confidence

Site 34, South of Porthmeor, also boasts a healthy population, which has been known for a long time. High confidence

At Lanyon Farm (SW42253422) the place where it has been known for many years is outside the boundary of the pSSSI (site 35). This site is the one where visitors are taken to see *Illecebrum* because it is where its presence is guaranteed. There are old records for *Illecebrum* nearby, within the SSSI, which have not been re-found despite repeated searching. This site should be included in the pSSSI boundary – it is sustainable and conservable and considered to be important by local botanists. High confidence.

Site 37, Higher Nines, is another good site for *Illecebrum* with a sustainable and conservable population. High confidence

Site 49, Carnaquidden Farm, last had *Illecebrum* in 1984. It has been searched for on several occasions since and never re-found. High confidence

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

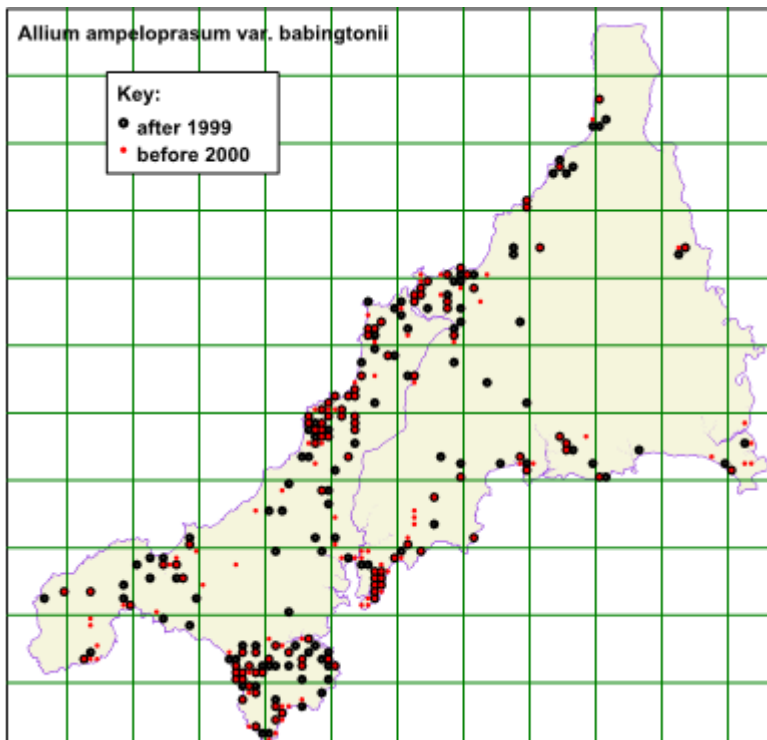
Site 55, the pool on Trink Hill (SW501371), where it once grew, still has the potential to support *Illecebrum*. It was last recorded there in 1975 and has been searched for a number of times since. High confidence

There is one additional important for *Illecebrum* site outside the pSSSI area (SW418366, near Bosigran). This site was recently scoured by flooding and no plants could be found when last checked. It is thought likely that it will recover over time.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Allium ampeloprasum var. *babingtonii*

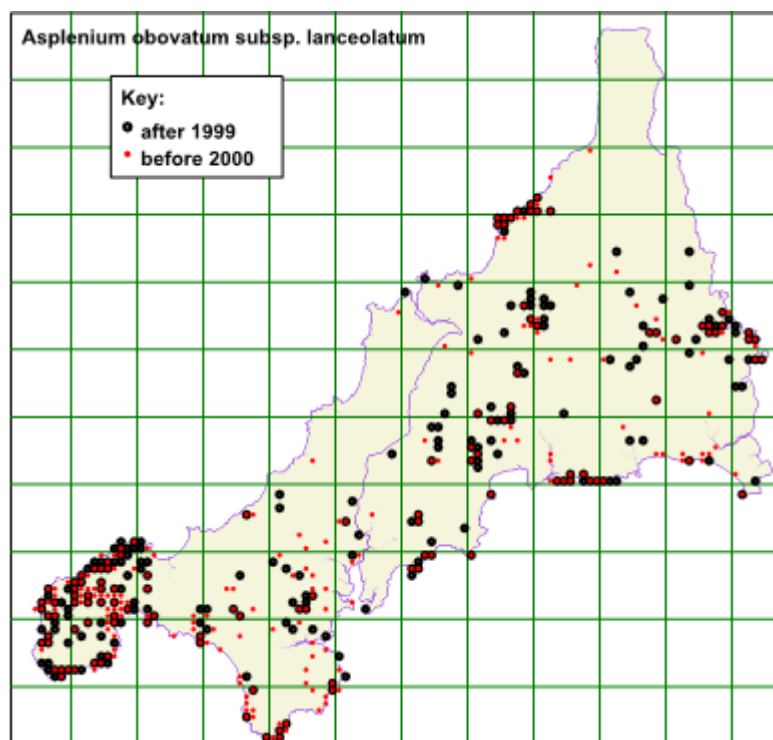
Allium ampeloprasum var. *babingtonii* grows at Woon Gumpus Common (SW39493344) close to the boundary of the pSSSI. It was discovered in 1991 and a small population has persisted ever since. It was growing in an area where garden plants had been dumped and it is thought that it was originally introduced with dumped soil/plant material. *Allium ampeloprasum* var. *babingtonii* is rare in West Penwith where there are scattered groups, often found where soil has been dumped. *Allium ampeloprasum* var. *babingtonii* persists for many years in low numbers at a lot of sites in Cornwall, so the population at Woon Gumpus common must be considered sustainable, with a high level of confidence.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Asplenium obovatum subsp. *lanceolatum*

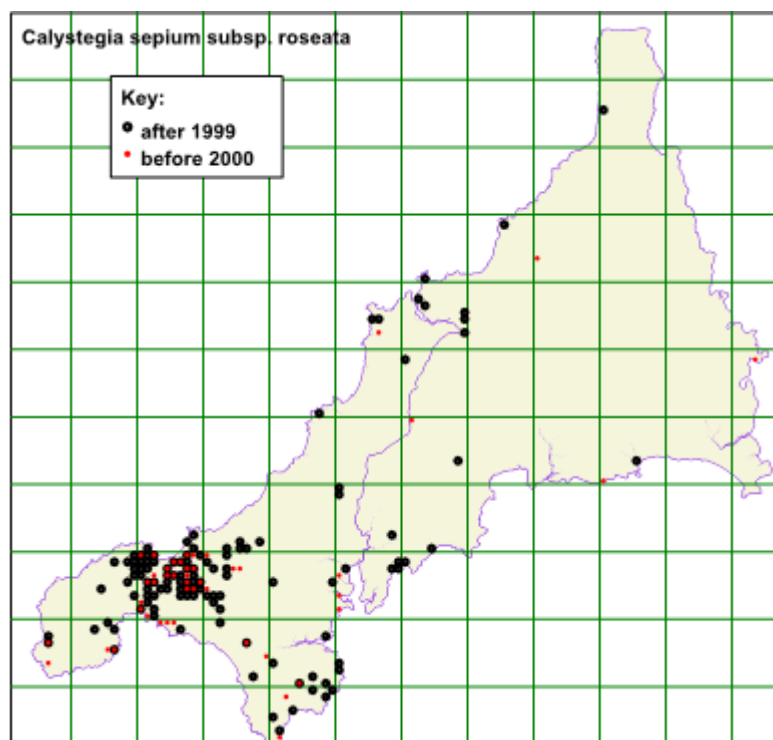
West Penwith is the most important area for this species in Britain due to its widespread occurrence and the number of plants found. It grows on Cornish Hedges, mortared walls and on rock outcrops. It tends to occur in small numbers in discrete clumps and often persists as the same spot for decades. As it is spread by spores and as it is common in West Penwith, any occurrences within the pSSSI boundaries should be considered as sustainable and conservable, with a high level of confidence.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Calystegia sepium subsp. *roseata*

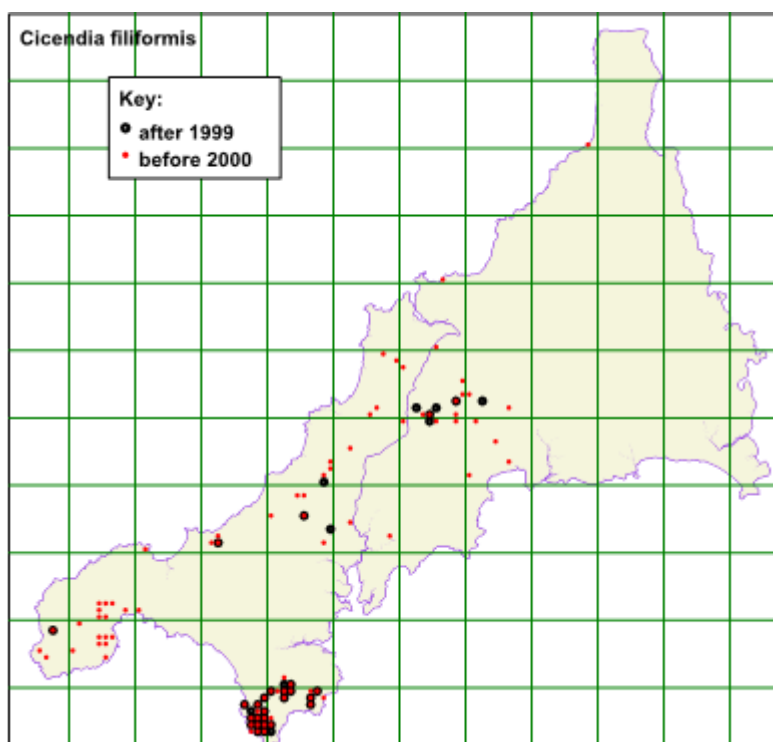
Calystegia sepium subsp. *roseata* is most commonly seen on roadside hedges and is most likely only to be found along the boundary of any SSSI. It is very common in the lowlands between Hayle, St Ives and Long Rock and peters out onto the West Penwith granite. As it is not representative of any habitats of conservation interest, is peripheral to the SSSI boundaries, and is only a colour form of a very common plant, it should perhaps only be included in a SSSI citation as of incidental interest.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Cicendia filiformis

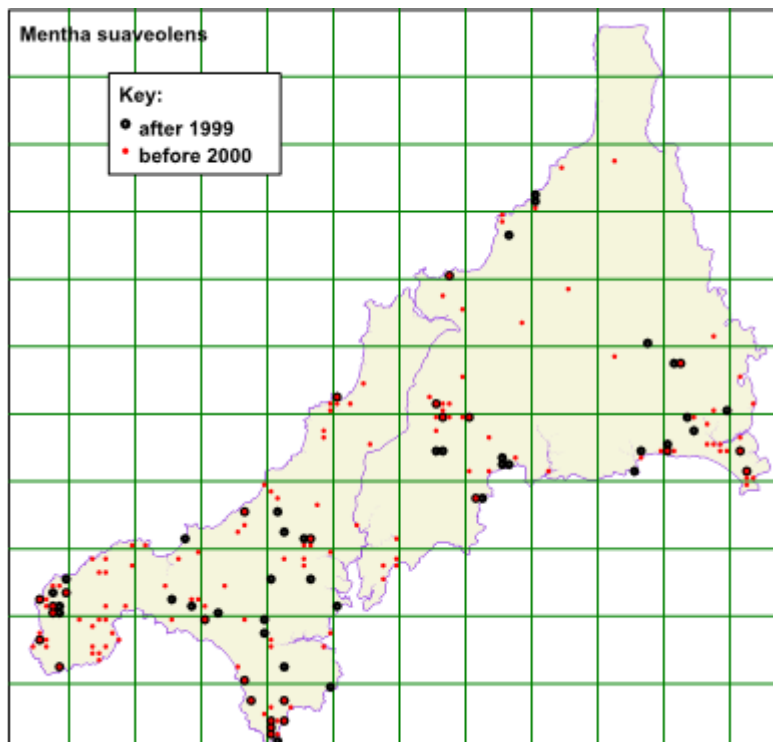
Cicendia filiformis has been found at scattered sites across the southern half of West Penwith, but at only one site in recent decades, at Nanquidno, which is just outside the boundary of pSSSI site 1. In 1997 between 1000 and 2000 plants were found. 8 were found in the same area in 2011. *Cicendia filiformis* is a plant that can have widely fluctuating numbers at any particular site and be found at others in very small numbers and yet be persistent for decades. So the Nanquidno site should be considered as sustainable and, with management, be made more favourable. Consequently, the pSSSI boundary should be extended to include the area containing the *Cicendia*. A high degree of confidence applies to this assessment.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Mentha suaveolens

Mentha suaveolens is probably a poor candidate for inclusion in an SSSI citation. Whilst West Penwith is an important area for this species, especially near St Just, it tends to occur in small numbers and not be very persistent at any individual site.

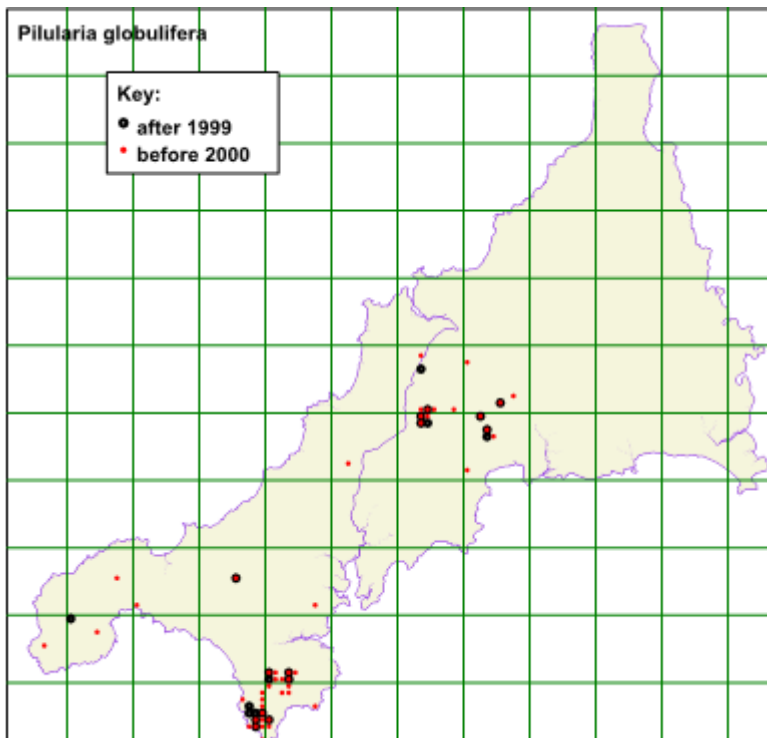


It does occur at site 21, Woon Gumpus Common, and at site 43, south of Rosemorran. In both cases the population may not be sustainable as it is likely to disappear after a few years and then pop up somewhere else nearby (not necessarily within the pSSSI). A medium level of confidence applies to this assessment as we have not personally seen it at either pSSSI site.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Pilularia globulifera

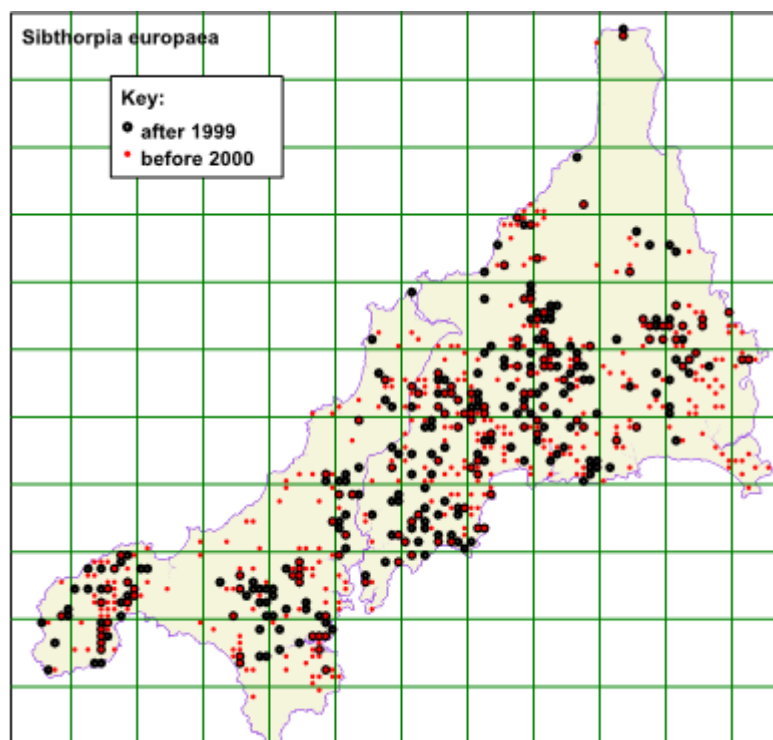
Pilularia globulifera is very rare in West Penwith and has not been recorded at any of the pSSSI sites. It is currently known from Caer Bran Farm but is likely to persist at Brew Moor, Sennen (last seen in 1998) and Chy-an-hal SSSI (last seen in 1984 where it was found in great abundance in newly created pools). The Caer Bran Farm site is being managed as a nature reserve so the owner would probably welcome any consideration of including that site within any future SSSI boundary. *Pilularia globulifera* is often very persistent at any particular site, but is also only irregularly seen, so is difficult to monitor. It is also a pioneer species so responds well to disturbance or newly created habitat.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Sibthorpia europaea

West Penwith is one of the strongholds of Cornish Moneywort. It is a plant that has been known to occur at the same spot for more than a century, whilst in other places it does move around within a relatively small area, and at other sites it can disappear for several years and then reappear again. There are also sites where it has known to have become extinct. It can also persist at a site in very low numbers for decades.

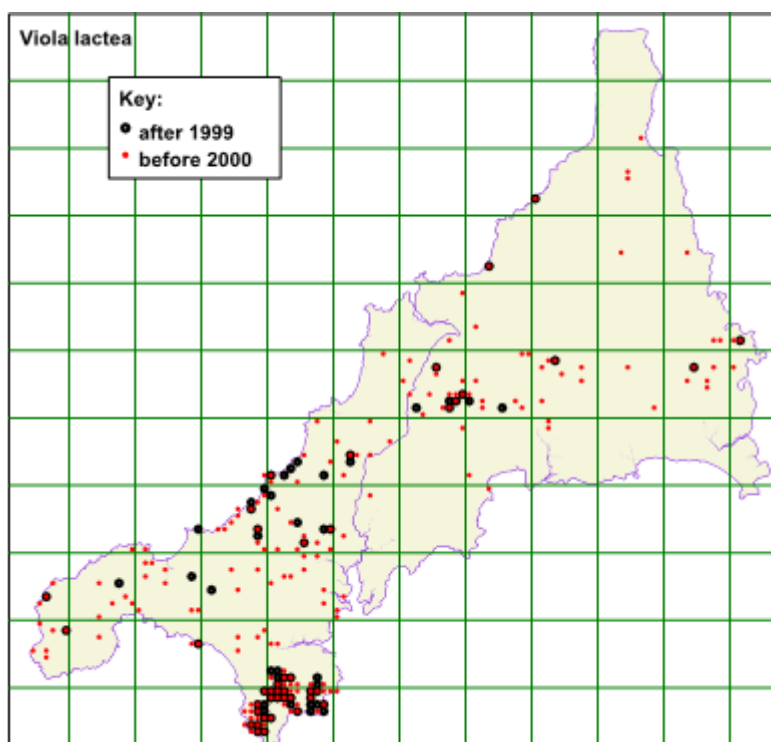


Sibthorpia europaea occurs at pSSSI sites 11, 22, 24, 26, 28, 34, 35, 43 and 45. Given the nature of this plant, it should be considered as both sustainable and conservable in all of these sites, with a high level of confidence.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Viola lactea

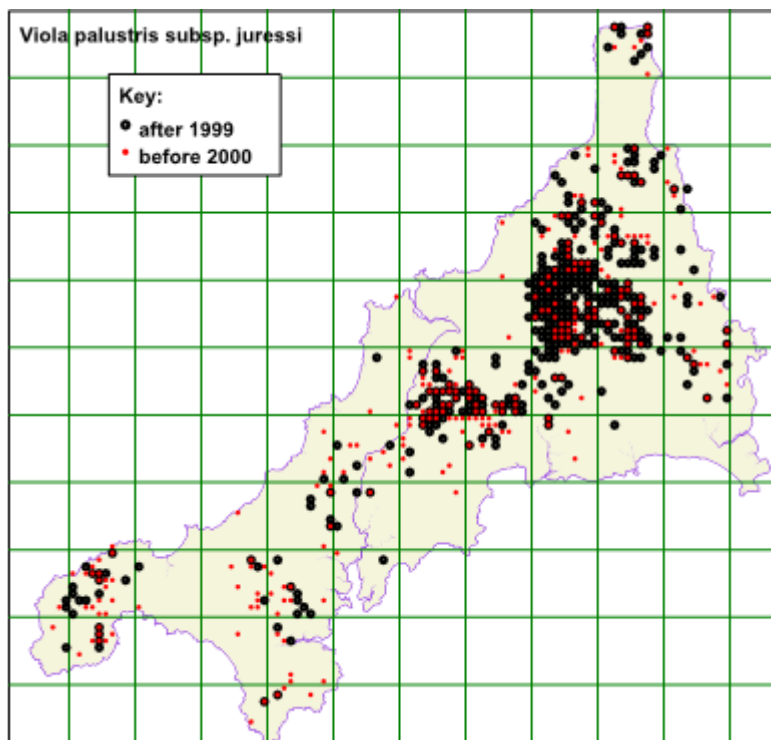
Viola lactea is a rapidly declining species in Britain which is also in decline in Cornwall, but at a slower rate. It is disappearing mainly through habitat loss and hybridisation with *V. riviniana*, which adversely affects the population size of *V. lactea* but not *V. riviniana*. It does persist at quite a few sites for decades in very low numbers so its presence in any pSSSI should be considered as sustainable. It has been recently recorded at sites 1, 4, 21 and 37 and should be considered as both sustainable and conservable at these sites, especially as it does respond to heathland management (burning and the creation/maintenance of open areas such as tracks). A high level of confidence applies here.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Viola palustris subsp. *juressi*

In most instances the presence of *Viola palustris* subsp. *juressi* is a very good indicator of important habitat for Nature Conservation. In other cases it is an indicator species of the former presence of very good habitat, such as in marshy areas that have scrubbed become over by willow carr, where *Viola palustris* subsp. *juressi* persists long after the original habitat has been lost.

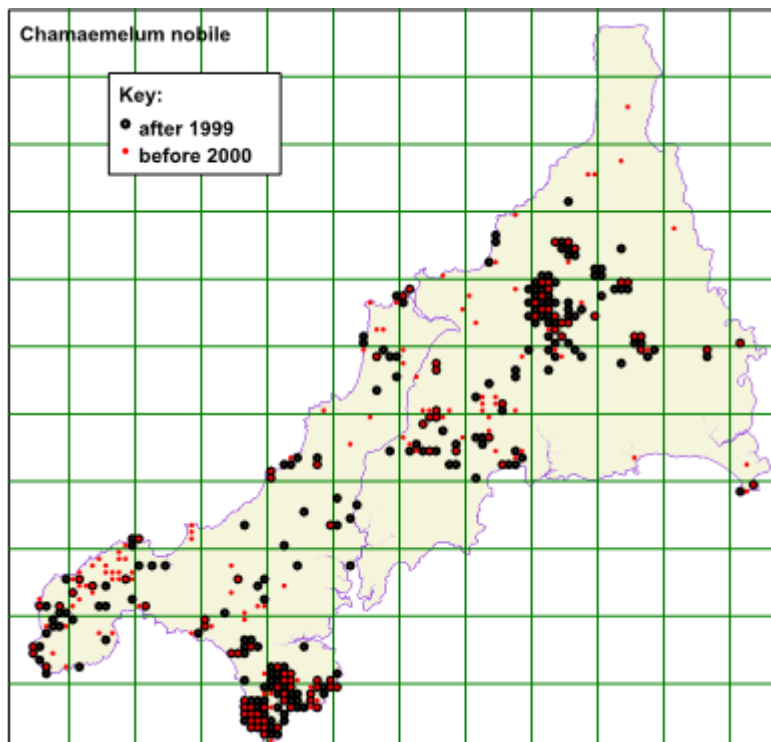


Viola palustris subsp. *juressi* has been recently found at sites 1, 17, 33 (there is now a 2007 record for this at SW431369), 36, 38, and 51 and should be considered as both sustainable and conservable in all these sites. Whilst the population size of *Viola palustris* subsp. *juressi* at all of these sites has not been recorded, it is sustainable in low numbers and because it is indicative of particularly good habitat, it is a species worthy of receiving conservation effort. A medium level of confidence should apply here.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Chamaemelum nobile

Chamaemelum nobile is declining in Britain. Cornwall remains a stronghold for it, especially on Bodmin Moor and on the Lizard where it is locally very abundant. There are also very good populations in West Penwith, where it is often found on tracks or on very short, grazed or mown, turf.



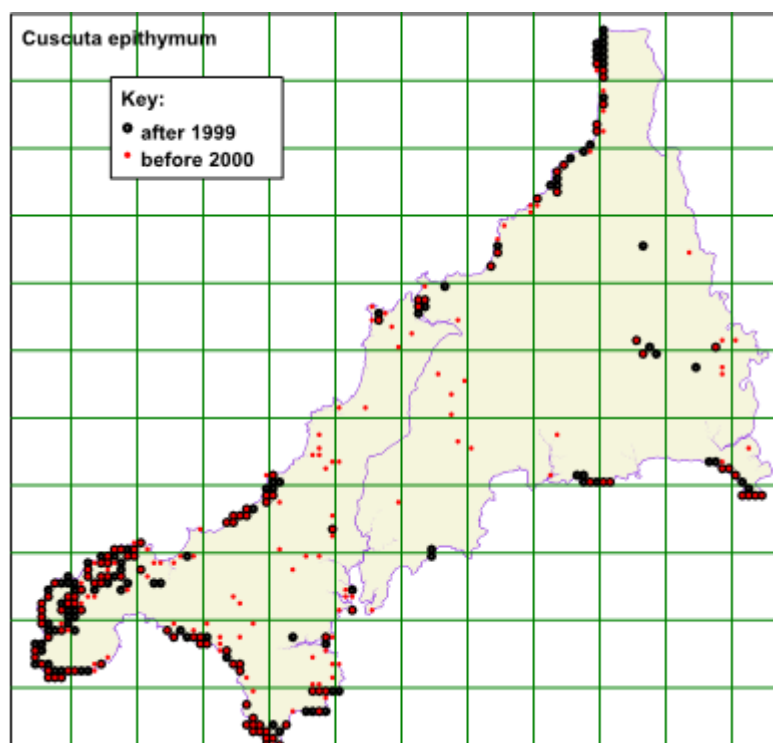
Chamaemelum nobile has been recently found at sites 1, 2, 4, 10 and 23. The population size at each of these sites is sufficient for this species to be considered both sustainable and conservable, with a high level of confidence.

At site 51 *Chamaemelum nobile* is found within the Cornwall Wildlife Trust reserve but has not been recorded within the pSSSI boundary. It may well occur within the pSSSI boundary as that area is criss-crossed by lots of tracks, so its potential presence should be noted.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Cuscuta epithymum

Cuscuta epithymum is more common in West Penwith than anywhere else in Cornwall. Cornwall is a stronghold for this species, which is dramatically declining in England. However, even in Cornwall it has disappeared from many inland sites, except in West Penwith. Overall it remains very common on many coastal heaths.



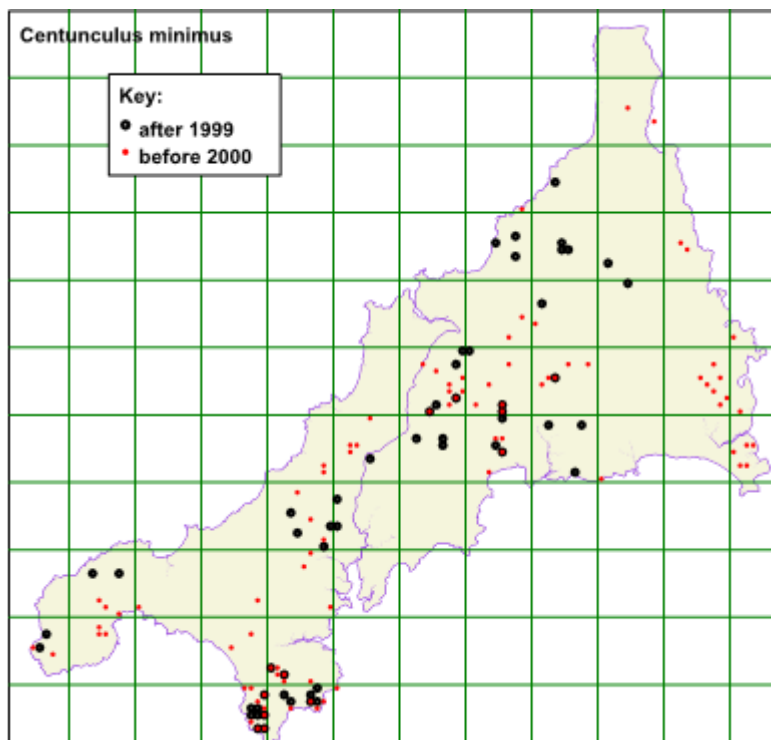
It can be regarded as both sustainable and conservable at all the pSSSI sites where recent records have been made, with a high level of confidence.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

The following species would not currently qualify for selection either in their own right or as part of a VPA. However, they are 'locally distinctive' species that are worthy of consideration.

Anagallis minima

Anagallis minima is a very rare plant and is also under-recorded due to its diminutive size and unobtrusive growth form. It is usually found in low numbers, growing along heathland tracks and sometimes in open areas alongside pools or ponds.

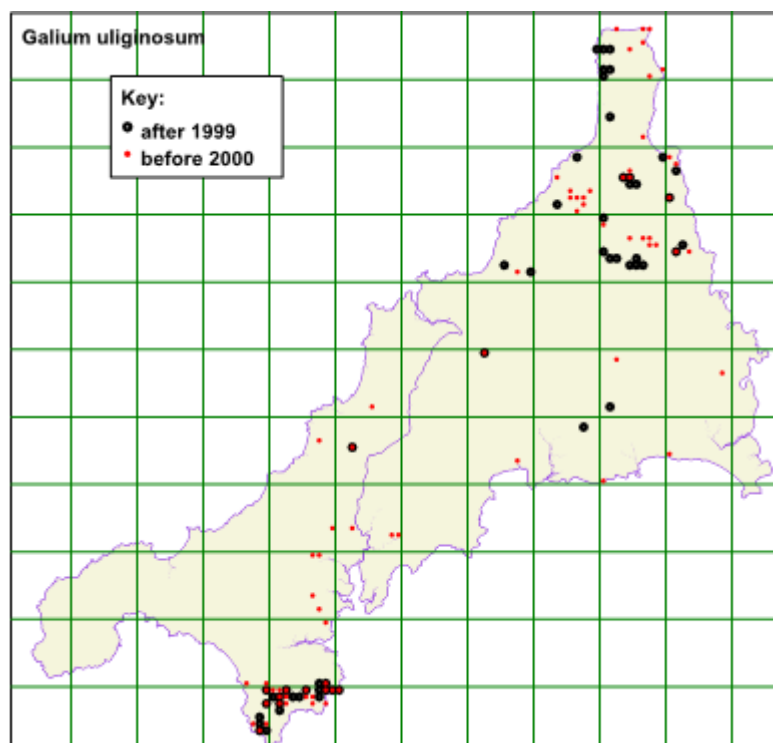


Anagallis minima was recorded on a track just outside site 48 in 2008 where a few plants were found associated with a small pool on the track. It has also recently been found at SW352254 near Sennen in 2009 and on a track at SW363277, near Tregiffian, in 2007. It also occurs on a track within site 34 where it should be considered, with a high level of confidence, as both sustainable and conservable – there are records for 2008, 2012 and 2014.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Galium uliginosum

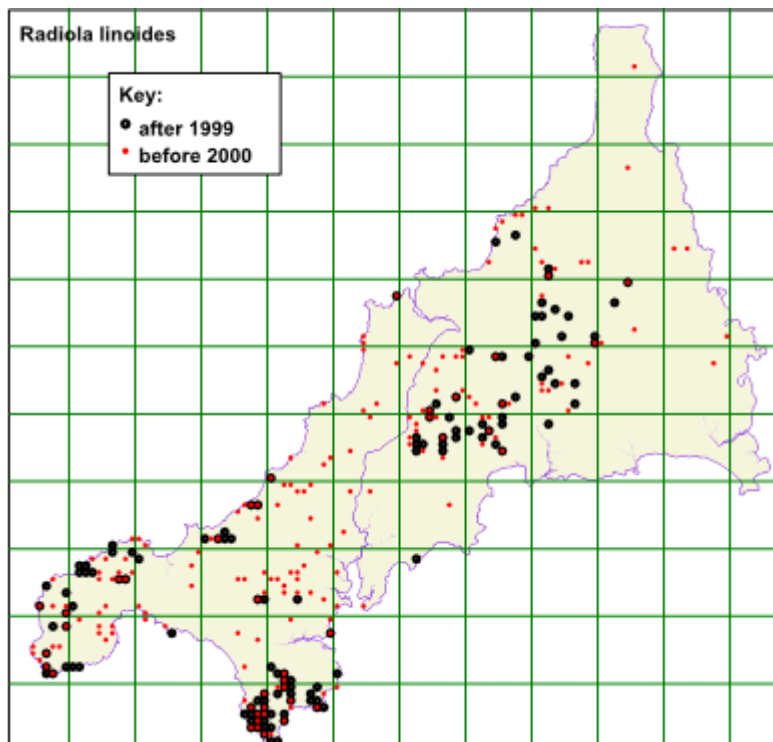
The inclusion of this species is based on one record from the 2013 Bostraze Bog survey. *Galium uliginosum* is highly unlikely to be found in West Penwith and the record is probably a mis-identification for *Galium palustre*.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Radiola linoides

Radiola linoides is found scattered across West Penwith on heathland tracks and open areas within former China Clay quarry sites. There are places in Cornwall where thousands of plants occur, however, in most instances a population size of a few dozen plants, or fewer, is often encountered.



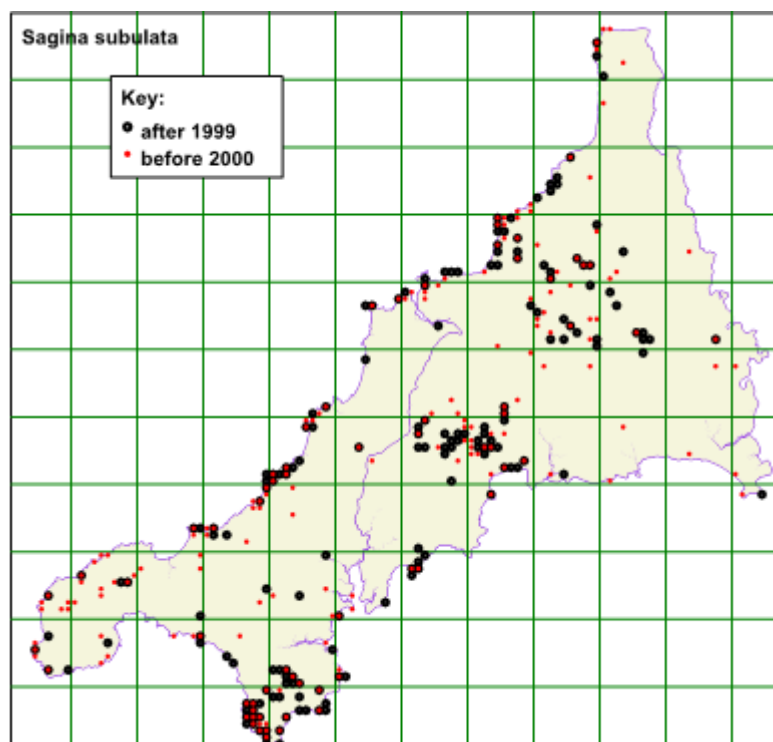
Radiola linoides has been recently recorded in sites 4, 10, 12, 21, 34 and 54. It can be regarded as both sustainable and conservable at all of these sites. A high level of confidence applies here.

At site 51 *Radiola* is found within the Cornwall Wildlife Trust reserve but has not been recorded within the pSSSI boundary.

West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Sagina subulata

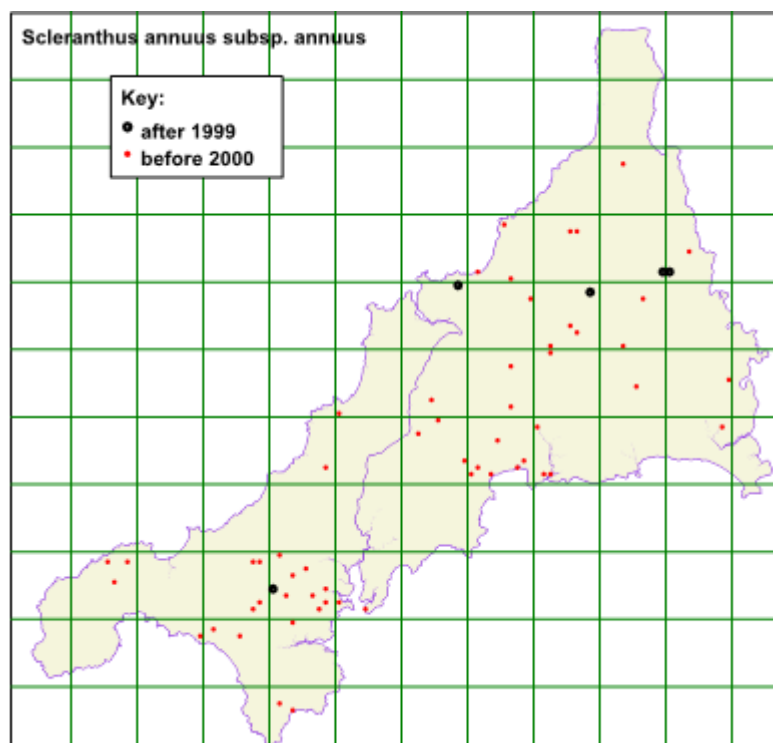
Sagina subulata is locally common along heathland trackways, especially along the coast, and in open areas on old mine sites and china clay tips. Three plants were recorded on a track at site 19 in 2013. At site 51, it can also be found within the Cornwall Wildlife Trust reserve but has not been recorded within the pSSSI boundary. This species is probably hardly worthy of mention in any SSSI citation as it is considered as Least Concern in the 2014 Red Data Book, and West Penwith is not a particular stronghold for it.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Scleranthus annuus subsp. *annuus*

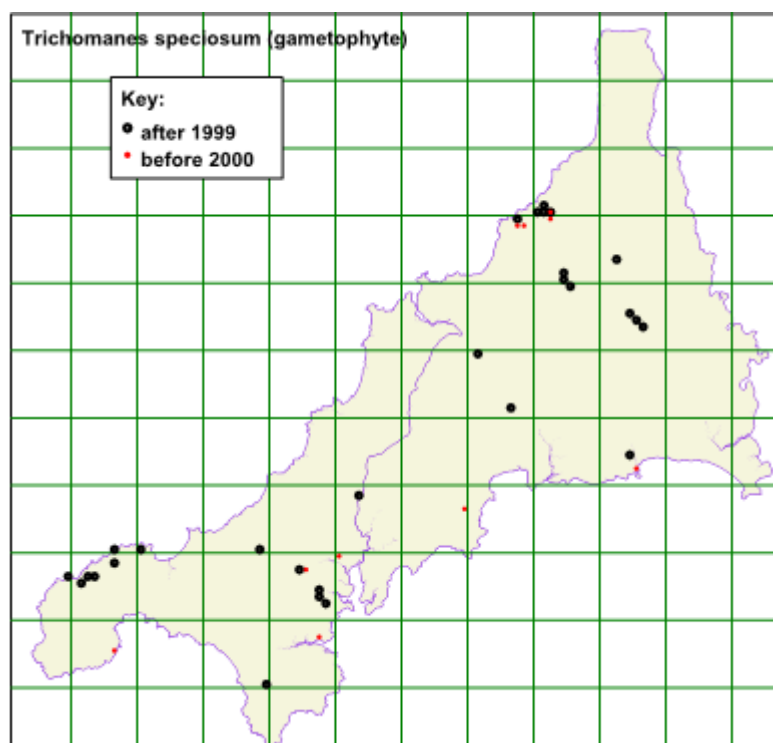
Scleranthus annuus subsp. *annuus* has not been found recently in West Penwith (last seen in 1972). It is extremely rare in Cornwall and may well be extinct in West Penwith. It is not a suitable species for inclusion in the SSSI citations.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Trichomanes speciosum

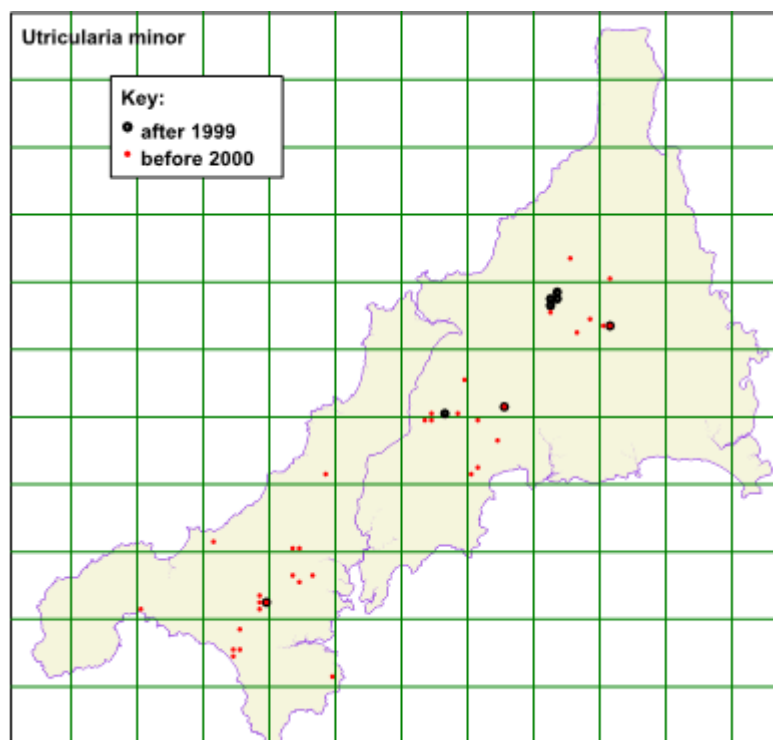
Trichomanes speciosum only occurs as the gametophyte in West Penwith. The distribution of the gametophyte in Britain is not accurately known and it is likely to be more widespread in Cornwall than is mapped below. The sporophyte stage is the one of Conservation concern and there are no sporophyte plants in West Penwith.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Utricularia minor

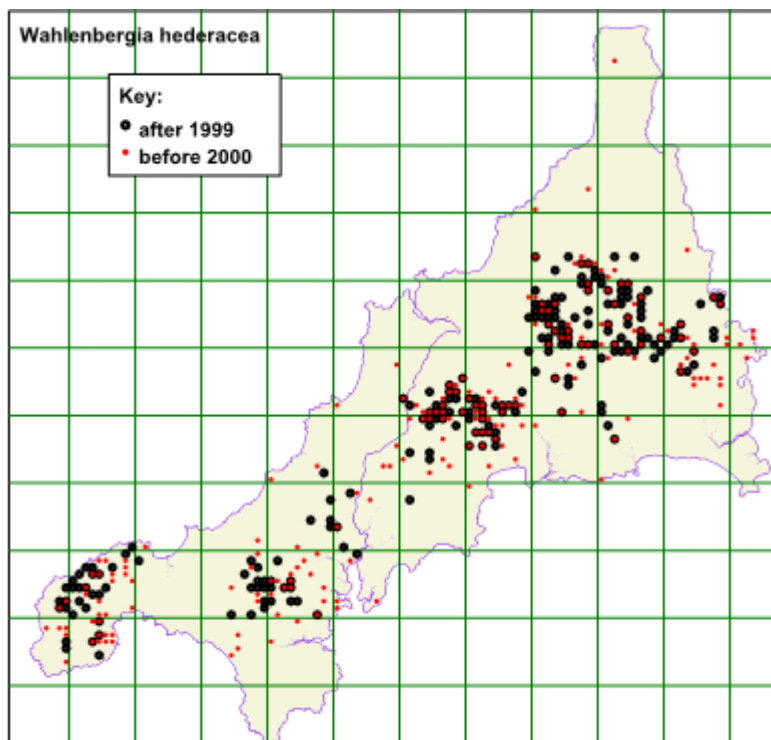
The 2013 record for *Utricularia minor* from the Bostraze Bog NVC survey is a very good extension of the known range of this very rare plant in Cornwall. It was noted as locally frequent in ponds, so should be considered as sustainable and definitely included in the SSSI citation. The identification should be double checked as this is the only record for West Penwith. If it turns out to be another *Utricularia* species, it should still be included in the citation. A medium level of confidence should be applied to this assessment due to the identification of the species remaining unconfirmed.



West Penwith Moors, Cornwall – assessment of population stability and sustainability of rare / scarce vascular plants

Wahlenbergia hederacea

West Penwith is a stronghold for *Wahlenbergia hederacea*. It is generally an indicator species of good habitat. It sometimes occurs in great abundance, but is more often encountered as an occasional find in suitable damp habitat. It has recently been found in sites 11, 17, 18, 24, 28, 34, 35, 43, 46 and 54. It can be considered to be both sustainable and conservable at all this sites with a high degree of confidence.



The species distribution maps shown above are taken from the ERICA database. They do not include the records in the NVC reports, other than those made by C.N. French, as those data have yet to be entered into the database. The ERICA database is the principal source of terrestrial biological records (excluding Birds) for Cornwall and currently holds 1.9 million Flowering Plant and Fern records.

Dr. Colin French

West Cornwall (VC1) Recorder for the Botanical Society of Britain and Ireland.

Ian Bennallick

East Cornwall (VC2) Recorder for the Botanical Society of Britain and Ireland.