

**Site name:** West Penwith Moors and Downs  
(Halow ha Gonyow Pennwydh West)

**Unitary Authority:** Cornwall

**Status:** Site of Special Scientific Interest (SSSI) notified under section 28 of the Wildlife and Countryside Act 1981 (as amended)

**Local Planning Authority:** Cornwall Council

**Ordnance Survey sheet: 1:25,000:** 102      **National Grid reference:** SW422357

**Notification date:** 7 October 2022

**Area:** 3044.45 ha

**Reasons for notification:**

West Penwith Moors and Downs SSSI is of special interest for the following nationally important features:

- lowland heathland;
- fens including habitats often referred to as mires and transitions to wet woodland;
- lowland dry acid grassland;
- populations of the plants: coral-necklace *Illecebrum verticillatum*, pale dog-violet *Viola lactea*, pillwort *Pilularia globulifera* and Cornish moneywort *Sibthorpia europaea*;
- an assemblage of lichens associated with non-montane acid rock;
- an assemblage of invertebrates associated with scrub-heath and moorland; and
- breeding Dartford warbler *Curruca undata*.

**General description:**

West Penwith Moors and Downs SSSI comprises 59 closely juxtaposed land parcels, extending for approximately 17 km from Nanquidno Downs in the west to Trencrom Hill in the east. It supports a diverse mosaic of semi-natural habitats, including lowland heathland, fens, lowland dry acid grassland, bracken, scrub, rocky outcrops, ponds and historic man-made trackways. It is underlain by granite rocks of the Cornubian batholith which give rise to acid loamy soils with a shallow peat surface.

The site has a long history of diverse land management, settlement and enclosure, from prehistoric to modern times, which has shaped the diversity and character of the semi-natural habitats present and the species they support. The fragmented nature of the semi-natural habitats dates from at least the early medieval period, though enclosure and intensification of land management during the nineteenth and twentieth centuries has resulted in further fragmentation. Abandonment of management in the early twentieth century has led to the development of mature gorse scrub and bracken on areas of previously more diverse habitat and, alongside drainage of wetlands, some loss of habitat transitions. However, transitions from hill-top to valley bottom remain.

Lowland heathland

Lowland heathland is the most extensive semi-natural habitat present on the site. These are predominantly 'humid' heaths reflecting the wet climate of the Penwith peninsula and most of the communities present are restricted to south-west Britain. A mosaic of humid, dry and wet heath is present reflecting soil and hydrological conditions. On higher ground

the heathland is characterised by western gorse *Ulex gallii*, heather *Calluna vulgaris*, bell heather *Erica cinerea*, bristle bent *Agrostis curtisii*, purple moor-grass *Molinia caerulea*, green-ribbed sedge *Carex binervis*, tormentil *Potentilla erecta*, heath milkwort *Polygala serpyllifolia*, lousewort *Pedicularis sylvatica*, heath plait-moss *Hypnum jutlandicum* and bracken *Pteridium aquilinum*. Common dodder *Cuscuta epithymum* is also frequent, growing parasitically on western gorse. Where ground conditions are more humid, cross-leaved heath *Erica tetralix* is characteristic, with bog-mosses *Sphagnum* spp in the wettest areas, merging into fen (mire) vegetation.

### Fens

The wetland communities present within West Penwith Moors and Downs are characteristic of valley mires fed by acid groundwater from a shallow granite aquifer. Peat to a depth of 1.5m has accumulated in many of these wetlands. Several types of wetland vegetation are present, often following the valley slopes and gradients of nutrient availability and wetness.

In the drier, grazed parts of the mires, rush pastures have developed and are characterised by soft-rush *Juncus effusus*, sharp-flowered rush *Juncus acutiflorus*, greater bird's-foot-trefoil *Lotus pedunculatus*, marsh-bedstraw *Galium palustre*, wild angelica *Angelica sylvestris* and water mint *Mentha aquatica*. In lower nutrient and wetter conditions, distinctive species-rich vegetation is characterised by purple moor-grass, common sedge *Carex nigra*, tormentil, cross-leaved heath, heather, lesser skullcap *Scutellaria minor*, devil's-bit scabious *Succisa pratensis*, marsh violet *Viola palustris*, royal fern *Osmunda regalis* and wild angelica. With increasing wetness, usually towards the centre of the valley, *Sphagnum*-dominated mires, soakaways and bog pools are found. These are characterised by bog-mosses, including *Sphagnum subnitens*, *S. denticulatum* and *S. cuspidatum*, and associated flowering plants such as star sedge *Carex echinata*, carnation sedge *Carex panicea*, bog asphodel *Narthecium ossifragum*, common cottongrass *Eriophorum angustifolium*, hare's-tail cottongrass *E. vaginatum*, round-leaved sundew *Drosera rotundifolia*, marsh St-John's-wort *Hypericum elodes* and bog pondweed *Potamogeton polygonifolius*. Ivy-leaved bellflower *Wahlenbergia hederacea* and pale butterwort *Pinguicula lusitanica* are also occasionally present.

Adjacent to the open mires are areas of wet woodland characterised by abundant grey willow *Salix cinerea*, with marsh bedstraw, bramble *Rubus fruticosus* agg., royal fern, broad buckler-fern *Dryopteris dilatata* and lady fern *Athyrium filix-femina*. Permanent high humidity gives rise to a luxuriant mat of mosses and liverworts including overleaf peltia *Pellia epiphylla*, shining hookeria *Hookeria lucens*, dotted thyme-moss *Rhizomnium punctatum* and blunt-leaved bog-moss *Sphagnum palustre*. Wet woodlands form an integral part of these valley wetlands and add significantly to their biological and structural diversity.

While wet habitats form an integral part of the site, the largest areas of fen are found at Bostraze, Boswens, Tregerest, Boswarva, between Lanyon and Men-an-Tol, Bosilliack, between Bodrifty and Bosporthenis, Tredinneck, Gear and Chykembro Commons, Embla, and Bussow Moor.

### Lowland dry acid grassland

Though not as extensive as lowland heathland, lowland dry acid grassland is a significant habitat often present in mosaics with lowland heathland and bracken. It is characterised by common bent *Agrostis capillaris*, bristle bent, sweet vernal-grass *Anthoxanthum odoratum*, sheep's-fescue *Festuca ovina*, red fescue *Festuca rubra*, field-woodrush *Luzula campestris*, tormentil, heath bedstraw *Galium saxatile*, sheep's sorrel *Rumex acetosella* and common dog-violet *Viola riviniana* along with neat feather-moss

*Pseudoscleropodium purum* and springy turf-moss *Rhytidiadelphus squarrosus*. Chamomile *Chamaemelum nobile* is also occasionally present in areas of low-turf.

### Vascular plants and ferns

The extensive mosaic of semi-natural habitats supports three vascular plants and a fern which have a restricted range (Nationally Rare/Scarce) and three of which are also threatened with extinction in Great Britain. These are coral-necklace *Illecebrum verticillatum*, pale dog-violet *Viola lactea*, pillwort *Pilularia globulifera* and Cornish moneywort *Sibthorpia europaea*. Native sites for coral-necklace in Britain are restricted to Cornwall. West Penwith Moors and Downs is one of its few remaining strongholds where it is found on gravel trackways flushed with freshwater seepages. Pale dog-violet is restricted to heathland and acid grassland locations where the vegetation is kept short and open. Pillwort is restricted to the margins of shallow ponds. Cornish moneywort is more widespread across West Penwith Moors and Downs being found mostly in tussocky fens and wet woodland.

West Penwith Moors and Downs also supports a number of other species of conservation interest. The nationally scarce lanceolate spleenwort *Asplenium obovatum* grows in rocky places such as relict Cornish hedges. Whist western Cornwall is a national strong-hold for this species there are larger populations around the coast. Wilson's filmy-fern *Hymenophyllum wilsonii* occurs at a few locations growing amongst granite rocks. Allseed *Linum radiola* and chaffweed *Lysimachia minima* occasionally occur in areas subject to disturbance such as unsurfaced trackways. West Penwith Moors and Downs supports a number of bramble *Rubus* species and there are also historic records for the nationally scarce and threatened yellow centaury *Cicendia filiformis* at a seasonal pond.

### Lichens

Many of the granite outcrops, including those at Carn Kenidjack, Watch Croft, Carn Galver, Hannibal's Carn, Carn Downs, Boswarva Carn, Zennor Hill, Logan Stone, Sperris Quoit, Trendrine Hill, Rosewall Hill and Trencrom Hill, support a nationally important assemblage of lichens associated with non-montane acid rock. The assemblage comprises rare, scarce and/or declining species. These include *Cladonia cyathomorpha*, *Gyroglypha saxigena* (syn. *Opegrapha saxigena*), *Herteliana gagei*, *Lecanora alboflavida*, *Lecidea fuliginosa*, *Melaspilea interjecta*, *Parmelinopsis horrescens*, *Parmelinopsis minarum*, *Pertusaria excludens*, *Sarcogyne clavus* and *Usnea subscabrosa*. Two small colonies of *Bryoria* were recorded at Hannibal's Carn. There is uncertainty whether the species is *Bryoria bicolor* or *Bryoria smithii*. Great Britain has international responsibility for three of the above species as it supports a significant proportion of the European and/or global populations.

### Invertebrates

West Penwith Moors and Downs supports a nationally important assemblage of invertebrates associated with scrub-heath and moorland. This assemblage is found on low nutrient, acid soils where herbaceous and dwarf shrub vegetation is dominant. It includes a wide range of invertebrates but beetles (Coleoptera), true bugs (Hemiptera) and spiders (Araneae) are particularly important components. Species found on West Penwith Moors and Downs include heather beetle *Lochmaea suturalis*, a rove beetle *Staphylinus erythropterus*, small heather weevil *Micrelus ericae*, the weevils *Protospirapion atratum*, *Stenopterapion scutellare* and *Sitona striatellus*, the ground bugs *Scolopostethus decoratus* and *Ulopa reticulata* and the spiders *Agroeca proxima* and *Clubiona trivialis*.

Surveys recorded over 600 species across the site, including the Nationally Rare Perkin's mining bee *Andrena rosae* and tormentil nomad bee *Nomada roberjeotiana*, the endangered butterfly species grayling *Hipparchia semele*, and wall brown *Lasiommata megera* and the vulnerable wetland rove beetle *Stenus kiesenwetteri*.

#### Dartford warbler

Stands of mature heathland within West Penwith Moors and Downs, sometimes with associated scattered scrub, support a nationally important population of breeding Dartford warbler *Curruca undata*. Male birds are often spotted singing from the tops of gorse bushes in the spring. Gorse also provides a safe nesting place and hunting ground for this species. Dartford warbler is resident in Great Britain and highly susceptible to severe winters. Due to its extreme south-westerly position West Penwith Moors and Downs could act as a regional refuge for this species when there are episodes of severe winter weather elsewhere in Britain.