

File ref: NY 30/9

**County:** Cumbria      **Site Name:** Tarn Hows

**District:** South Lakeland

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

**Local Planning Authority:** Lake District Special Planning Board

**National Grid Reference:** NY 330002                      **Area:** 178.0 (ha) 439.0 (ac)

**Ordnance Survey Sheet 1:50,000:** 90, 96, 97      **1:10,000:** SD 39 NW, NY 30 SW

**Date Notified (Under 1949 Act):** 1965                      **Date of Last Revision:** 1975

**Date Notified (Under 1981 Act):** 1984                      **Date of Last Revision:** 1984

**Other Information:**

1. The boundary has been modified by partial deletion at renotification.
2. The site lies within the Lake District National Park.

**Reasons for Notification:**

Tarn Hows SSSI is situated on an area of fell between 100 and 270 m OD  $3\frac{3}{4}$  km north-east of Coniston and 3 km north-west of Hawkshead. The tarn occupies a large basin in the centre of the site and is underlain by both acid Silurian and Borrowdale Volcanic rocks and the calcareous Coniston Limestone. The basin previously contained three separate tarns until a small dam was erected at its south western end early in the 20th Century. It is the best known example of a tarn at the richer end of the meso-oligotrophic (nutrient poor) group of tarns and has a particularly diverse aquatic flora. Other tarns in this group in South Cumbria include Little Langdale Tarn and Beacon Tarn which have similar associations of aquatic plants but are poorer in nutrients. At its northern end, the Tarn is fed by water which drains from a series of valley and basin mires. These are nationally rare habitats which are similar to the mires of Claife Tarns and Mires SSSI. The rest of the Tarn's catchment area consists of acid grassland, bracken and old larch plantations, with small areas of dry heath dominated by heather *Calluna vulgaris* on the rockier parts of Tom Heights. Below the south west end of the Tarn lies a small area of fellside woodland comprising Harryfield Wood and Lane Head Coppice. This is of particular interest owing to its rich epiphytic lichen flora which is characteristic of ancient woodland.

The shore line of the Tarn is marked by bare rock and gravel interspersed with fringing 'poor fen' which often marks the inflow of small streams and acid flushes. These 'fringes' are dominated by bottle sedge *Carex rostrata* with common spike-rush *Eleocharis palustris*, marsh pennywort *Hydrocotyle vulgaris*, bog bean *Menyanthes trifoliata* and three species of bur-reed *Sparganium erectum*, *S. emersum* and *S. minimum*. Water lobelia *Lobelia dortmanna*, shore weed *Littorella uniflora* and floating Scirpus *Eleogiton fluitans* also occur in the shallow waters around the edges of the Tarn. The deeper waters are occupied by dense swards of alternate-flowered water-milfoil *Myriophyllum alterniflorum* and a variety of other aquatic plants including greater bladderwort *Utricularia vulgaris*. Stoneworts *Chara* and *Nitella* spp. and common quillwort *Isoetes lacustris*. White and yellow water lilies *Nymphaea alba* and *Nuphar lutea* form occasionally floating mats and seven species of pondweed *Potamogeton alpinus*, *P.*

*natans*, *P. berchtoldii*, *P. obtusifolius*, *P. perfoliatus*, *P. praelongus* and *P. polygonifolius* have also been recorded.

The valley mire to the north east occupies three distinct levels which are connected by a small stream. Together, these have a diverse peatland flora with carpets of *Sphagnum* moss interspersed with stands of bog myrtle *Myrica gale* and common cottongrass *Eriophorum angustifolium*. The Sphagnum communities vary from types dominated by white beak sedge *Rhynchospora alba* with sundew *Drosera rotundifolia* and bog asphodel *Narthecium ossifragum* to drier variants with heather *Calluna vulgaris*, cross-leaved heath *Erica tetralix*, devil's-bit scabious *Succisa pratensis* and cranberry *Vaccinium oxycoccus*. Lying within the mosaic of different communities are several small bog pools where bogbean, small bur-reed, greater bladderwort and many stemmed spike-rush *Eleocharis multicaulis* grow. The mires are bordered by small acid flushes dominated by jointed rush *Juncus acutiflorus* with grass-of-Parnassus *Parnassia palustris*. A variety of smaller mires have also developed on Tom Heights and Tarn Hows Intake. These are characterised by open Sphagnum carpets with abundant bog asphodel and have a range of other peatland plants including the uncommon lesser skullcap *Scutellaria minor*.

Harryfield Wood and Lane Head Coppice below the south western end of the tarn comprise birch-sessile oak *Quercus petraea* stands with occasional holly and ash. Much of the oak in the northern part of the wood is old coppice but to the south there are many large, old trees which support a particularly rich epiphytic lichen flora. This includes lungwort *Lobaria pulmonaria* and the ancient-forest indicators *Thelotrema lepadinum* and *Lecidea cinnabarina*. The wood is dissected by Tom Gill which carries a fast-flowing stream fed by Tarn Hows. The gill is marked by stands of particularly large, small-leaved lime *Tilia cordata* with occasional wych elm *Ulmus glabra* and is also a location for the uncommon Wilson's filmy fern *Hymenophyllum wilsonii*.