

Shropshire Botanical Society  
Newsletter  
Spring 2011





# Shropshire Botanical Society Newsletter No.22

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Past copies of the newsletter are available as pdfs from the website.

Any opinions expressed in this newsletter are those of the various authors, and are not necessarily those of the Society.

Cover photo: Eyebright *Euphrasia* sp., Llyncllys Common (Dan Wrench)

## Society Matters Mags Cousins

We have had a change of newsletter editor and we would like to thank Don Briggs the outgoing editor for all his hard work in producing the splendid publications over the last two years. I am now your editor for 2011 and aim to ease you into a new recording season after a freezing December and January. It will be interesting to see what effect the cold weather has had on the emergence and flowering dates of our most familiar species.

Just before the freeze at our winter meeting in December 2010 Dr Sarah Whild stepped in to talk about the revisions to Schedule 9 Species (species prohibited from release under Section 14 of the Wildlife and Countryside Act 1981) at short notice as Dr Mark Spencer was unwell. Fortunately Dr Spencer will deliver his planned talk on 'Alien Invaders' at the AGM this year which will follow on nicely from Sarah's introduction to the legislation relating to alien species.

In this newsletter we delve into lowland fens; we take a look at the Eyebrights (*Euphrasia*), a surprisingly difficult genus with very many hybrids; hear the results of habitat creation at Venus Pool reserve, join the volunteers who have started recording in Telford and take a pertinent look at some conservation priorities for Shropshire.

The Shropshire Botanical Society and other recording groups are facing uncertain financial times due to the forthcoming cuts. SBS has benefited from funds that have come from the Shropshire Ecological Data Network which was supported by money from Natural England. In common with the rest of the public sector NE is having to make substantial savings. Fortunately SBS has a relatively healthy bank account at the moment thanks to the support of members. We'll keep an eye on the finances whilst making sure that the money we do have is spent wisely on the projects to further the cause of botanical knowledge and recording in Shropshire.

One important project already underway is the new Flora of Shropshire, see County Recorder's report, page 6. The original Ecological Flora of the Shropshire Region by Sinker et al was published in 1985 and reprinted in 1991, so is due for an update. Sufficient recording has been done, so now it is the hard graft of putting together the new Flora. Members may be able to help with certain aspects of this important task and should contact Alex Lockton, email: [coordinator@bsbi.org.uk](mailto:coordinator@bsbi.org.uk).

## Note to Recorders

The plant name changes in the New Flora of the British Isles, 3<sup>rd</sup> edition, by Clive Stace can be found at [www.bsbi.org.uk](http://www.bsbi.org.uk). The new recording form with the changes can be found at [www.bsbi.org.uk/shropshire](http://www.bsbi.org.uk/shropshire)

## Offer from a member

Joan Fallows is a member who used to live in Shropshire but now lives in Co Mayo. She lives fairly close to one of the summer BSBI field meetings and has offered hospitality (she has a couple of spare rooms) to any SBS members who are thinking of attending. She gave her phone number should anyone wish to take up her kind offer, Tel. 00353 61924899.

## Indoor Meetings

Annual General Meeting Sunday 10<sup>th</sup> April 2011, 2-4pm  
Preston Montford Field Studies Centre, Montford Bridge, Shrewsbury, SY4 1DX.

‘Alien Invaders’, a talk by Dr Mark Spencer from the Natural History Museum, curator of the British, Irish and Sloane Herbaria, BSBI County Recorder for Middlesex, currently recording for a New Flora of London and an expert on urban alien species.

Before hearing from Dr Spencer we will do the usual AGM business which includes elections. Dan Wrench will be standing down after serving his term of three excellent years as Chair, for which we thank him very much. We have had one nomination for Chair so far, for Prof. Ian Trueman. Mags Cousins will be standing down as Treasurer, as she has agreed to take on editing the newsletter for 2011. We have had one ‘expression of interest’ for a replacement Treasurer. It is not as onerous as you might imagine! John Handley is willing to stand again as Secretary but if anyone is interested in position of Secretary, or Treasurer, or willing to just join the committee please let us know two weeks before the AGM. We would be very happy to hear from you.

SBS Winter Meeting Saturday 10<sup>th</sup> December 2011, 2-4 pm, at Preston Montford Field Studies Centre, Montford Bridge, Shrewsbury, SY4 1DX. A social event with sherry, mincepies plus a speaker to be confirmed.

## Other Events

The annual conference of the Shropshire Biodiversity Partnership will be held between 6-9 pm on the 10<sup>th</sup> March at The Gateway Centre, Chester Street, Shrewsbury, SY1 1NB. The event will be a series of short talks about current biodiversity projects in Shropshire - primarily those with a wetland theme. All are welcome but please book early with Gareth Parry or Dan Wrench as places are limited. For further details please visit the Natural Shropshire web site [www.NaturalShropshire.org.uk](http://www.NaturalShropshire.org.uk) or contact Gareth or Dan:

Dan Wrench [dan.wrench@shropshire.gov.uk](mailto:dan.wrench@shropshire.gov.uk), Tel. 01743 252529

Gareth Parry [gareth.parry@shropshire.gov.uk](mailto:gareth.parry@shropshire.gov.uk), Tel. 01743 252543

Friday 7<sup>th</sup> October 2011, 7.15 pm, Science Lecture theatre, Shrewsbury School.

A talk by Timothy Walker, Horti Praefectus of the University of Oxford Botanic Garden and Arboretum. He will speak on the medicinal uses of plants, especially as sources of drugs and include information on the recent reclassification of plant families based on DNA evidence.

Contact: Shrewsbury School, The Schools, Shrewsbury, SY3 7BA, Tel. 01743 280500, email: [reception@shrewsbury.org.uk](mailto:reception@shrewsbury.org.uk)

# Field Meetings in 2011

Bring waterproofs and a packed lunch, hand lens and field guide. Beginners are welcome to all meetings. It is advisable to check with meeting leader beforehand and book a place.

## **Saturday 21<sup>st</sup> May: Tetrad bashing, SO48M**

Look for Green-winged Orchid, following part of the Onny Trail and the old Bishop's Castle railway line, exploring the River Onny, unimproved grassland, woods and quarry. Led by Mark Duffell, Fiona Gomersall and John Handley. Meet 11 am at car park off road to Cheney Longville, SO43018441.

Contact: [fiona@eadstudio4.co.uk](mailto:fiona@eadstudio4.co.uk), Tel. 01588 680693 or [mark@duffell7.wanadoo.co.uk](mailto:mark@duffell7.wanadoo.co.uk) or [john@handleycanning.go-plus.net](mailto:john@handleycanning.go-plus.net)

## **Saturday 4<sup>th</sup> June: Lilleshall and Lea Quarries, Wenlock Edge**

Likely to soon be acquired by the National Trust, these quarries hold some good species like Basil Thyme and Yellow Bird's-nest. Led by Dr Sarah Whild and Dan Wrench. Meet at 11 am at SO58189730 where there is some parking. Further parking can be found in the lay-by on the main road at the top or at NT's Presthoke car park.

Contact: [s.j.whild@bham.ac.uk](mailto:s.j.whild@bham.ac.uk) or [DanWrench@googlemail.com](mailto:DanWrench@googlemail.com)

## **Saturday 18<sup>th</sup> June: Patten's Rock Quarry, Benthall Edge (Severn Gorge Countryside Trust)**

Likely to see Greater Butterfly and Bee Orchids and numerous other interesting species since the large scrub clearance efforts there. Led by Penny Wysome and Dr Kate Thorne. Meet at 11 am at Benthall Church, SJ658024 where there is parking on the verge.

Contact: [penny.wysome@virgin.net](mailto:penny.wysome@virgin.net) or [k.thorne@btinternet.com](mailto:k.thorne@btinternet.com)

## **Saturday 2<sup>nd</sup> July: Stapeley Common wildlife site in the Hope Valley.**

Search the flushes for Northern Marsh Orchid and Common Butterwort where there is also good acid grassland and heath. Led by John Clayfield. Meet at 11 am at the parking area on sharp bend at The Marsh, White Grit: SO314980.

Contact John Clayfield. Tel. 01547 530298.

## **Saturday 9<sup>th</sup> July: Old Oswestry Hillfort.**

Look for Greater Broomrape and Stag's-horn Clubmoss. Led by Dan Wrench and Mark Duffell. Meet at 11 am at the lay-by near the entrance.

Contact: [DanWrench@googlemail.com](mailto:DanWrench@googlemail.com) or [mark@duffell7.wanadoo.co.uk](mailto:mark@duffell7.wanadoo.co.uk)

## **Sunday 31<sup>st</sup> July: Brown Moss.**

Search for Floating Water-plantain, Shoreweed, Tubular Water-dropwort and Small-fruited Yellow-sedge. Led by Dr Sarah Whild. Meet at 11 am at the main car park, Brown Moss, SJ563393.

Contact: [s.j.whild@bham.ac.uk](mailto:s.j.whild@bham.ac.uk)

## **Saturday 13<sup>th</sup> August : Titterstone Clec.**

A clamber over the blocks and scree to search for Mountain Male-fern (*Dryopteris oreades*), Parsley Fern, Fir Clubmoss and Ivy-leaved Bellflower plus other wet flush plants. Led by John Bingham. Be prepared for any weather as it can be cool and wet or very hot and exposed! Agility and good footwear are essential. Meet at 11 am at the summit car park at SO593775 (take signposted road near Angel Bank on A456 main road).

Contact John Bingham on [jb8dcb@btinternet.com](mailto:jb8dcb@btinternet.com). Tel. 07810 153798.

## **Saturday 3<sup>rd</sup> September: Tetrad bashing SJ70E, Telford.**

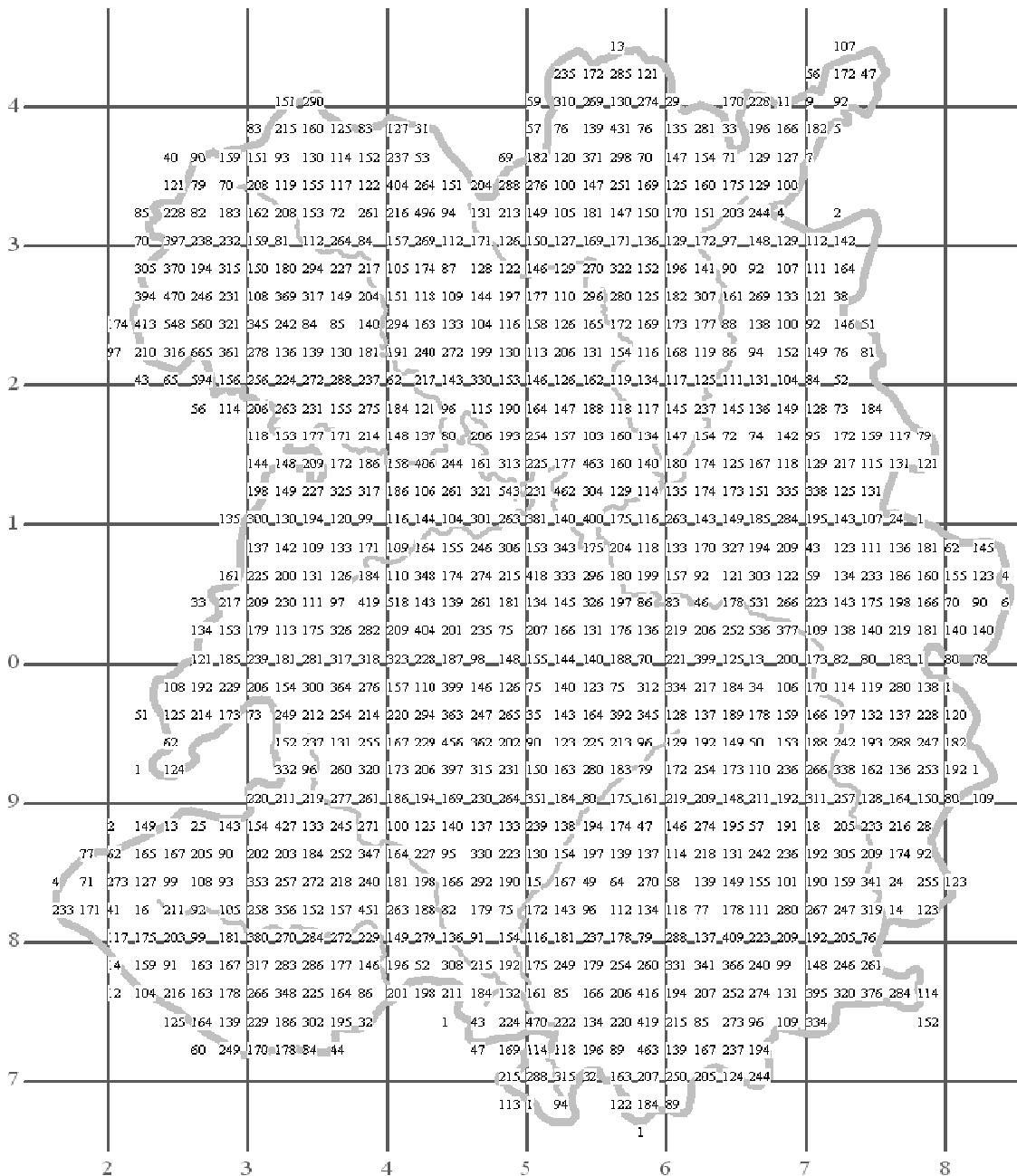
May find almost anything and a good range of everything! Led by Prof. Ian Trueman and Penny Wysome. Meet at 11 am in Stirchley Grange car park (free) at SJ704078

Contact: [I.C.Trueman@wlv.ac.uk](mailto:I.C.Trueman@wlv.ac.uk) or [penny.wysome@virgin.net](mailto:penny.wysome@virgin.net). Tel. 01952 242617.

# County Recorder's Report Sarah Whild

Last year was the final year for square bashing for the new Flora. We have received over 25,000 records so far for 2010, with at least another 10,000 waiting for inputting. The list of recorders is given below but if your name doesn't appear yet, or the number of records next to your name looks low, don't worry – they are still in my processing pile.

This brings to an end the Greening the Dots project to update the tetrad maps since Sinker's Flora. One question is what do we do next? We should keep raising standards by recording more accurately and more precisely, and from now on, the coarsest grid reference acceptable for a 'square list' is a monad or one kilometre square. It should be possible to find around 150 species in an average square in about 3 hours, and this seems a fairly repeatable survey method. It is not suitable for everyone, because you do need a wide range of identification knowledge and there are some squares (not many) where it is difficult to get to 100 species. Below is the map of numbers of species recorded in each tetrad since the 1985 Flora so you can see that there are records from every entire tetrad in the vice-county.



So what to do in 2011? There is still a small amount of field work required, mainly checking sites for rare species that haven't been seen in this current date class and some quadrat work too for some sites so if you are really keen to do some species-based recording this year do email me.

List of recorders and determiners so far in 2010, showing the number of records each has made.

Bell, Mr K.K.	24	Leonard, Mrs M.	117
Bennett, Mrs R.	1	Leslie, Dr A.C.	1864
Bingham, Mr J.	442	Lockton, Mr A.J.	14899
Bingham, Mrs D.	2	Markland, Ms M.	218
Bingham, Ms J.	1	Martin, Mr J.	1
Box, Dr J.D.	3	Maskew, Mr R .	2
Cartwright, Miss S.	120	Meade, Ms R.	2
Chater, Mr A.O.	1	Meikle, Mr R.D.	1
Clayfield, Mr J.	125	Mileto, Mr R.	6
Cohn, Dr E.V.J .	216	Morgan, Mr S.	1
Cousins, Mrs M.	97	Morris, Dr J.	169
Crichton, Ms S.	2	Murphy, Miss R.J.	1
Critchley, Ms H.	2	Newton, Ms C.	2
Crouch, Dr H.J.	1	O'Donnell, Dr S.	864
Dale, Mrs E.	3	O'Donnell, Mrs E.	604
Dawes, Mr A.P .	5	Palin, Mrs E.	1
Dawes, Mrs R.A.	810	Peyton, Ms J.	182
Denholm, Dr I.A.	1	Phillips, Mrs E.	84
Diack, Mr I.	60	Race, Mr M.	1
Dodd, Mr S.	182	Ramsbotham, Mrs J.	9
Draper, Mr B.O.	1	Roberts, Mrs M.E.	1
Duffell, Mr M.S.	543	Robson, Dr N.K.B.	1
Fox, Dr L.A.	515	Rumsey, Dr F.J .	1
Garrington, Ms S.	93	Shanklin, Dr J.	10
Godfrey, Sqn Ldr M.F.	154	Spence, Mrs S.	515
Gomersall, Mrs F.	6	Spencer, Dr M.A.	3
Green, Mr P.R.	5024	Stokes, Mr R.M.	5
Green, Mrs P.G.	118	Stribley, Mr M.J.	6
Guest, Dr L.B.	2	Swindells, Mr R.J.	1
Halliday, Dr G.	8	Swindells, Mrs S.	332
Handley, Mr J.	875	Tanner, Mr I.	1
Headley, Dr A.D.	42	Thompson, Mr I.S.	141
Herring, Mr B.	133	Thompson, Mrs J.	142
Hoare, Mr M.G .	5	Thorne, Dr A.K.	341
Hosie, Dr C.	2	Thorne, Dr W.I.J.	128
Ing, Mrs J.	351	Thorne, Mr R.G.	2
Iremonger, Mr R.	49	Thornes, Mrs R.	4
James, Mr T.J.	2	Trueman, Prof I.C.	391
Kay, Mr G.M.	1	Tudor, Ms G.	3
Kitchen, Dr M.A.R.	2	Uff, Dr C.	10
Knowle, Ms B.	8	Whild, Dr S.J.	3790
Lane, Mr S.	1	Wilson, Ms G.	2
Laney, Mr B.J.	14	Worrell, Mr J.	1
Langton, Mr J.	1	Wrench, Mr D.H.	57
Lansdown, Mr R.V.	42	Wysome, Mrs P.J.	22

Sarah Whild, BSBI Recorder for v.c. 40. [S.J.Whild@bham.ac.uk](mailto:S.J.Whild@bham.ac.uk)

## Lowland Fens in Shropshire Iain Diack

Shropshire is one of the most important counties for fens in England. Whilst not widely recognised for this, Shropshire still supports a wide diversity of fen types, although the extent and quality of these are much reduced compared with what was once present. Put simply, a fen is a wetland that remains wet for much of the year and receives water and nutrients from surface water, groundwater and rainfall. The word fen is thought to derive from the old English word 'fenn', meaning marsh, dirt or mud. The current interpretation of 'fen' as used in the UK Biodiversity Action Plan is very broad and includes all wetlands that are not solely rain-fed (which are bogs) or permanent open waters. The UK BAP also separates Lowland Fen from Upland Fens, Flushes and Swamps on an altitudinal and 'degree of enclosure' basis. What follows describes some of the fen types found in lowland Shropshire. Upland fens will be covered in a subsequent newsletter.

One of the richest fen vegetation types is short-sedge, brown-moss dominated alkaline fen. This is found in Shropshire where low-nutrient calcium-rich water issues from limestone, for example in the Oswestry Uplands or (in the past) along Wenlock Edge, and also where water has been enriched with bases as it moves through glacial drift, for example at Crosemere, Colemere and the Yesters. Small base-rich fens are also found in parts of the Wyre Forest.

Sinker's Flora listed these fens as being at risk of total loss from the county, and the continued decline of typical species such as the beautiful Grass of Parnassus *Parnassia palustris* – now surviving on only one site in the county, but once occurring on over 20 – shows that the threat to these very rich habitats from nutrient enrichment, drainage and scrub invasion remains.

The finest alkaline fens that remain are in the limestone country of the Oswestry Uplands. Trefonen Marshes and Sweeney Fen are very small but extremely diverse sites and support the best examples of alkaline fen in the Midlands. The core of the interest at Trefonen is the short, open vegetation around permanent springs from which water issues direct from the Carboniferous limestone. These areas are rich in bryophytes, with a striking carpet of 'brown' mosses, including *Campyllum stellatum*, *Palustriella commutata*, *Scorpidium cossonii*, *Philonotis calcarea* and *Bryum pseudotriquetrum*. Also present in small pools is the stonewort *Chara vulgaris*. A fascinating feature of this site is the extensive development of tufa, which is associated with springs where groundwater rich in calcium bicarbonate comes to the surface. On contact with the air, carbon dioxide is lost from the water and a hard deposit of calcium carbonate is formed as stony grey tufa, often on mosses and plant remains. The vascular plant flora is equally rich with species now very rare in the lowlands including Grass of Parnassus, also Bog Pimpernel *Anagallis tenella*, Common Butterwort *Pinguicula vulgaris*, Dioecious Sedge *Carex dioica*, Flea Sedge *Carex pulicaris*, Broad-leaved Cottongrass *Eriophorum latifolium* and Long-stalked Yellow Sedge *Carex lepidocarpa* all thriving. In areas of Trefonen Marshes where the water emerges with less force, rushy pasture has developed and this is rich in taller plants, including Globe-flower *Trollius europaeus*, Marsh Valerian *Valeriana dioica* and Marsh Helleborine *Epipactis palustris*.

For a finer display of Marsh Helleborine you need to visit Sweeney Fen, which is also fed by calcareous groundwater, but not in quite the same way as at Trefonen. The vegetation at Sweeney Fen is largely dominated by a sward of Blunt-flowered Rush

*Juncus subnodulosus*, always a good indicator of base-enrichment, but growing in amongst this is a profusion of Marsh Helleborines and Marsh Fragrant-orchid *Gymnadenia densiflora*. The wetter areas here have a carpet of Bogbean *Menyanthes trifoliata*, with Marsh arrowgrass *Triglochin palustris* and brown mosses, within which there is an area of 1 m<sup>2</sup> with tufa formation, indicating a stronger upwelling of water.

Where more nutrients are available alongside a supply of base-rich water, the more widely recognised tall fen develops. The few remaining fragments of tall rich-fen (rich here meaning rich in base ions such as calcium) give us a tantalising glimpse of what once covered large areas of Shropshire, the north of the county particularly. The large peat bodies of the Weald Moors, Baggy Moor, Smithy Moor, Turfmoor near Kynaston and St. Michaels Marsh area would all have supported wet wildernesses of bog, tall fen and wet woodland. The advent of steam pumps, tile drainage and later government drainage grants, big diggers and the Internal Drainage Boards managed to eradicate nearly every vestige of the vegetation that had survived there for centuries.

One such fragment survives at the Yesters, near Baschurch, where groundwater seeps from calcareous drift. Surviving in a tiny pocket of land next to the railway are Great Fen-sedge *Cladium mariscus*, Purple Moor-grass *Molinia caerulea*, Common Reed *Phragmites australis* and Fen Bedstraw *Galium uliginosum*. Elsewhere on this site there is still some nice base-rich rush pasture with Ragged Robin *Silene flos-cuculi*, Quaking-grass *Briza media*, and Blunt-flowered Rush. This site has been partially drained but offers a great opportunity for restoration.

Remnants of tall rich-fen survive around the fringes of more alkaline meres, for example at Crosemere, where Great Fen-sedge and Blunt-flowered Rush survive, unlike the lower-growing, less competitive species such as Grass of Parnassus and Marsh Helleborine which appear to have been lost from the site in the last 20 years for a variety of reasons, not least nutrient enrichment from surrounding farmland and the absence of grazing from the richest part of the site. Evidence suggests that water levels at Crosemere were substantially lowered at some point in the 19th century, and this would have done for much of the fen that had until then been accumulating peat around the pool's broad margins. Similar vegetation remains around the Fenemere group of pools, Colemere and Ossmere.

Some of the plants that grow in this open-water transition fen have fairly restricted distributions. Cowbane *Cicuta virosa*, Tufted sedge *Carex elata* and Purple Small-reed *Calamagrostis canescens* for instance are all characteristic of Shropshire mere margins, but otherwise are uncommon across much of the rest of the UK. Other typical plants here include Yellow loosestrife *Lysimachia vulgaris*, Skullcap *Scutellaria galericulata*, Greater Tussock-sedge *Carex paniculata* and Greater Spearwort *Ranunculus lingua*. Slender Sedge *Carex lasiocarpa*, an elegant plant of mesotrophic pool margins and very wet fen hangs on in Shropshire at Berrington Pool, Berrington Moss and Lin Can Moss. This species is now very uncommon in England and tends to be found only in the least damaged wetland sites – a few East Anglian alkaline fens, New Forest valley fens and Cumbrian basin fens.

Slender Sedge in Shropshire is a rare member of a fen type that is found in neutral-slightly acid water that is particularly associated with basin peatlands, i.e the Shropshire 'mosses'. Commoner species in these fens are Water horsetail *Equisetum fluviatile*, Bottle Sedge *Carex rostrata*, Common Sedge *Carex nigra*, Marsh Cinquefoil *Comarum palustre* and Bogbean. Common Cottongrass *Eriophorum angustifolium* and Purple

Moor-grass can be abundant, and the nature of the bryophyte flora is very different from the brown-moss carpet of alkaline fens. *Calliergon cordifolium* is often abundant, and some of the more base-tolerant bog-mosses such as *Sphagnum squarrosum* may also be present, sometimes as precursors of bog development. On some basin wetlands, for example those in the Bomere area and around Ellesmere, this community is found around the edge of floating bogs where surface water and groundwater run in from surrounding land (a zone referred to as the lagg), whereas the centre of the basin supports rain-fed bog-like vegetation with bog-mosses, particularly *Sphagnum fallax* and Hare's-tail Cottongrass *Eriophorum vaginatum*, Cross-leaved Heath *Erica tetralix* and Cranberry *Vaccinium oxycoccos*. On other sites it can cover a much larger part of the basin, sometimes where peat cutting has removed the acid peat and lowered the surface, giving plant roots access to mineral-enriched water.

The basin wetlands of north Shropshire, Cheshire, and NW Staffordshire and their transitional fen-bog vegetation are extremely important in a UK and international nature conservation context and four sites (Abbots Moss, Chartley Moss, Clarepool Moss, and Wybunbury Moss) have been designated as Special Areas of Conservation under the EC Habitats Directive in recognition of this importance. There are many more sites supporting this type of vegetation throughout this landscape though many have been drained, planted with trees or allowed to develop into wet scrub, with the loss of many fen species.

Restoration is underway on some of these, on both SSSIs and undesignated sites. Early results are very encouraging – a site on deep peat near English Frankton that was a potato field 12 years ago now has Greater Tussock-sedge, Common Cotton-grass, Fine-leaved Water-dropwort *Oenanthe aquatica* and a wide range of commoner wetland plants, as well as breeding sedge warblers, reed buntings and possibly teal. Another ex-arable field on peat near Rednal now has extensive areas of Blunt-flowered Rush, patches of Marsh Pennywort *Hydrocotyle vulgaris* and is one of the very few lowland sites in the county where snipe is thought to have bred in the last ten years.

The success of these schemes, in which no intervention was made apart from switching off pump drainage systems, is very encouraging as it suggests that the wetland landscape of Shropshire is still sufficiently rich and well-connected to allow the spread of some of the less common wetland plants as well as the more widespread species. Whether the current scale and ambition of the restoration of Shropshire's wetlands is sufficient to restore the conditions needed by the species already lost or on their way out, however, remains to be seen. A concerted and sustained effort from all parties – national and local government bodies, wildlife charities, local communities, farmers and landowners – is required. Let's hope the financial difficulties of the present don't derail the momentum that is building around getting better recognition for these unique and precious sites and ensuring that they go into the twenty-second century in a better state than they were in at the beginning of the twenty-first.

## Meadow Creation at Venus Pool Ian Trueman

In 1999 The Shropshire Ornithological Society (SOS) purchased 9 ha of arable fields around the reserve at Venus Pool near Cross Houses (SJ548062). An SOS member, Michael Wallace, knew of our experiments with hay strewing in Wolverhampton and advocated the use of the technique.

Total soil nitrogen and available phosphate and potassium levels were modest and there were no widespread infestations of perennial weeds. These are the necessary precursors for success. The soil is sandy and very dry, except for an area NW of the pool where SOS controls the water table and produces marshy conditions. We selected four fine old Shropshire hay meadows and decided to use the wet meadows of Mottey Meadows National Nature Reserve in Staffordshire as the source for the marshy area.

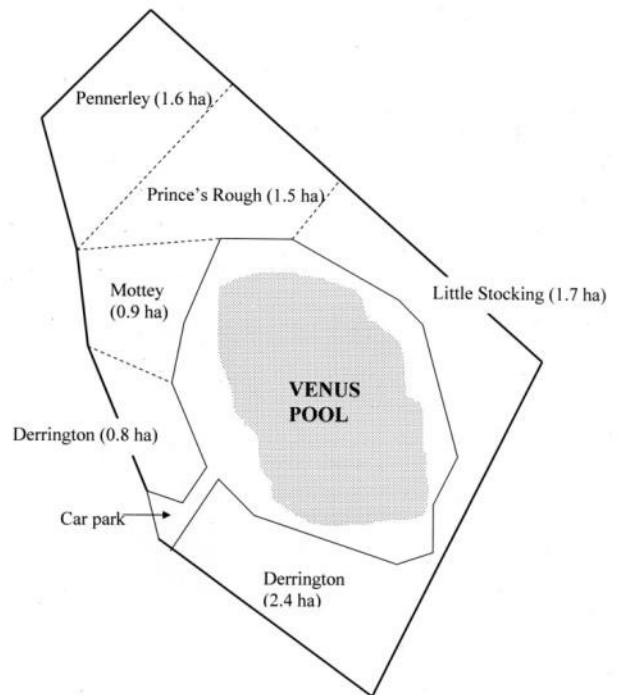
At hay time 2001, slightly puzzled SOS volunteers spread the freshly cut 'hay' very thinly over twice the area it came from (see Fig. 1 and Table 1).

As usual, the first year was a nightmare, especially with the presence of a solid seedbank of arable weeds. In particular a jungle of *Weld Reseda luteola* appeared on the eastern flank of the pool. A large patch of New Zealand Pigmyweed *Crassula helmsii* came up in the Mottey plot even before the hay went down and dense thickets of rushes (all sorts!) appeared soon afterwards.

We informed SOS that after a hay cut at the normal time the annual weeds would be unable to regenerate from seed and would disappear back into the seedbank. Fortunately we were right! There have had to be a few purges of Common Ragwort *Senecio jacobaea* from time to time. Graham Walker and the management team keep the rushes under

some control by strimming them in the autumn and we ignore the *Crassula*.

Fig. 1 Sources and distribution of the hay spread at Venus Pool SOS Nature Reserve (scale circa 1:8,000)



We have been very fortunate that an elderly local farmer has taken the site under his wing so we get regular and reliable hay cuts plus the aftermath grazing in the late summer and through the winter, which helps to produce bare patches for regeneration of the shorter-lived meadow perennials.

Within two years the meadows started to produce waves of flowers through the spring and early summer. Ox-eye Daisy *Leucanthemum vulgare* rendered the Pennerley source area white in the early years but it has now reduced to a modest component despite the aftermath grazing.

A few very small Green-winged Orchid *Orchis* (OK, *Anacamptis*) *morio* flowered in 2003 in the Little Stocking meadow area and have built up to a reliable annual show of hundreds (500+ in 2010) at the end of April. A hybrid swarm of Marsh-orchids *Dactylorhiza* (mostly *D. fuchsii* × *praetermissa* but *D. maculata* is also involved) appeared on the Motte site.

The Shropshire Botanical Society visited the site in 2006 and there was a report of the visit in the Autumn 2006 Newsletter, noting the presence of Meadow Thistle *Cirsium dissectum*, Heath Grass *Danthonia decumbens* and Pale Sedge *Carex pallescens* in the same area and Smooth Brome *Bromus racemosus*, I think in the dry meadows.

It is not very easy to study the meadows. They are, after all, growing on a BIRD reserve which means that it is necessary to avoid disturbance, particularly in the breeding season. However, we do have a little 2006 2 m x 2 m quadrat data from the wet Motte derived meadow which is difficult to match to NVC but includes 9 or 10 Shropshire axiophytes.

Also the dry meadows were thoroughly investigated by Pippa Rayner in 2003 and 2004 and the results published in her PhD thesis. 49 one m<sup>2</sup> quadrats were recorded in a 50 m x 50 m area of each of the source meadows in 2003 and in the four receptor meadow areas in 2003 and again in 2004.

The sets of quadrats were matched against the National Vegetation Classification using the (rather simplistic) computer program MATCH. In the table first- and second-best matches are shown for each source meadow and the matching areas at Venus Pool in 2003 (VP03) and 2004 (VP04). The coefficients are percent similarities with the NVC community or subcommunity as a whole.

Table 1. Matches of source and receptor sites

	Closest match	coeff	Next closest	coeff
Derrington meadow, Brown Clee, SO609909				
source	MG5	71.4	MG5a	70.9
VP 03	MG5	63.3	MG5a	61.5
VP04	MG5	65.5	MG5b	62.4
Pennerley, Stiperstones, SO356993				
source	MG5c	64.2	MG5	63.6
VP 03	MG5b	55.3	MG5	55.1
VP04	MG5	62.6	MG5a	60.9
Princes's Rough, Westhope, SO470868				
source	MG5	72.8	MG5a	72.5
VP 03	MG6b	69.4	MG5a	64.3
VP04	MG5	66.2	MG6b	66.0
Little Stocking, Oretton, SO654804				
source	MG5a	75.7	MG5	74.6
VP 03	MG5a	67.6	MG5	67.1
VP04	MG5a	67.6	MG5	67.6

The NVC types in the table are as follows:

MG5: the *Centaurea nigra* – *Cynosurus cristatus* community

MG5a: the *Lathyrus pratensis* subcommunity of MG5

MG5b: the *Galium verum* subcommunity of MG5

MG5c: the *Danthonia decumbens* subcommunity of MG5

MG6: the *Lolium perenne* – *Cynosurus cristatus* community

MG6b: the *Anthoxanthum odoratum* subcommunity of MG6.

The MG6 community is less species-rich and less interesting than MG5. The data suggests that by 2004 the created meadows had a good and mostly increasing similarity with the source meadows and with the desirable MG5 community. We now need more data!

Some annually-obtained data is available from the patch of Derrington derived meadow to the north of the car park, where we have been trying to substitute autumn and spring cutting and disturbing for aftermath grazing in a replicated plot experiment.

Our treatments have had little effect, but in 2010 the vegetation as a whole was still quite species rich, with 39 species present, of which 32 are characteristically present in MG5 and with a mean of 14.2 per 1 m<sup>2</sup> quadrat. Knapweed *Centaurea nigra* and Bird's-foot-trefoil *Lotus corniculatus* are the most abundant species and Yellow-rattle *Rhinanthus minor* and Eyebright *Euphrasia* sp. are both frequent.

In 2005 a further meadow was created on shallow-soiled south-facing slopes well to the south of the pool, using Pennerley hay supplemented with samples of the winter-annual flora present on Loton Hill, kindly donated by Sir Michael Leighton. This area is being managed as pasture and in 2009 Squirreltail Fescue *Vulpia bromoides*, Sheep's-fescue *Festuca ovina*, Silver Hair-grass *Aira caryophylla*, Field

Madder *Sherardia arvensis* and Little Mouse-ear *Cerastium semidecandrum* were all present, as was the remnant of a large population of *Filago vulgaris* which had apparently been present in the seedbank of these slopes and the neighbouring quarries.

It is probably too soon to know finally the degree of success at Venus Pool. Meanwhile there is much to learn from the experiment. There are some signs of beneficial effects on bird and invertebrate populations, and there is another dimension to the enjoyment to be experienced at Venus Pool. Visitors may access the public path system from the car park and walk anticlockwise part-way around the dry meadows, but do not attempt to walk across the fields.

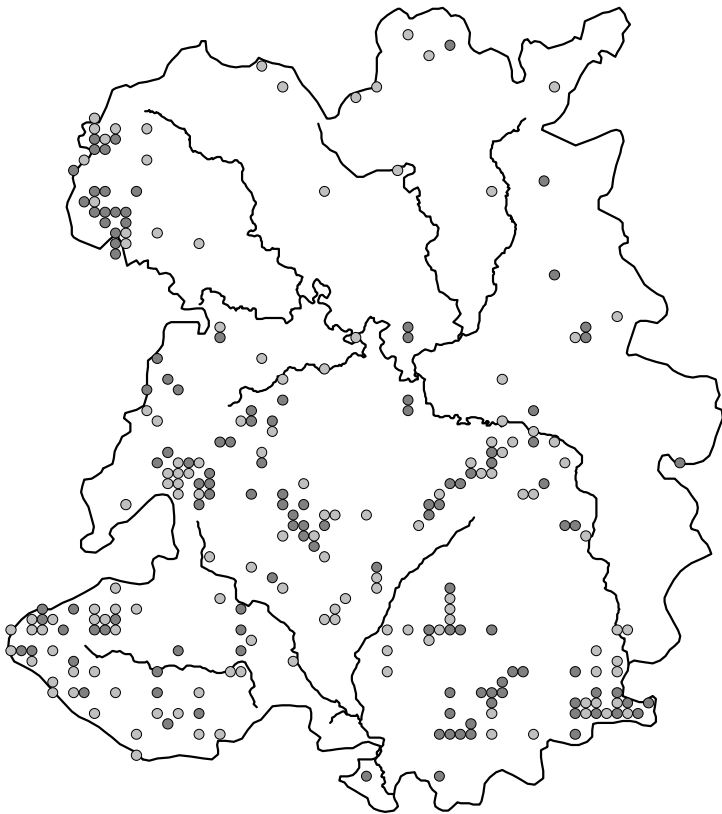
## *Euphrasia* (Eyebrights) in v.c. 40 Sarah Whild

Until the third edition of Stace (2010), eyebrights could be found in the Scrophulariaceae (Figwort family) together with the other hemiparasitic genera such as *Pedicularis* (Louseworts), *Rhinanthus* (Yellow-rattles), *Melampyrum* (Cow-wheats) and *Odontites*, *Parentucellia* and *Bartsia* (Bartsias). Following the third review by the Angiosperm Phylogeny Group, all of the root parasites were placed in the Orobanchaceae together with the obligate total parasites *Lathraea* (Toothworts) and *Orobanche* (Broomrapes) (Stace 2010).

Ecologically, the eyebrights are an important component of species-rich grassland in Shropshire where, like other hemiparasites such as *Rhinanthus*, they parasitize roots of adjacent grasses and legumes. This maintains a diverse sward by reducing the vigour of competitive grasses and nitrogen-fixing clovers and vetches. In Shropshire, eyebrights are scattered throughout the south-west half of the county but are noticeably rare in the agriculturally improved north-east.

In terms of identification, it is relatively easy to identify an eyebright – they have distinctive zygomorphic white flowers with a yellow lower lip and often distinctive purple veins on the corolla. The leaves are opposite but are often similar in form to the bracts which subtend the flowers and are alternate.

They are branched annuals and can form a visually significant part of the sward in upland hay meadows such as those at Pennerley. However, while it may be straight forward enough to say it is an eyebright, deciding which eyebright is another matter entirely.



There are nineteen species of *Euphrasia* described by Stace (2010) but in addition there are 71 wild hybrids making this one of the most difficult genera in the British and Irish flora. In v.c. 40, there are records of nine taxa. However, most records are for *Euphrasia officinalis* agg – basically *Euphrasia* sp. The only accepted records are those determined or confirmed by either Peter Yeo or Alan Silverside.

So how do we tackle eyebright identification? The only strategy is to collect specimens for refereeing by Alan Silverside but there is a knack to collecting eyebrights. An accurate identification cannot be made from just one plant – you should aim to collect five or six representative specimens from

what you hope is one species and you should collect the entire plant to press straight away. It should be in full flower as it is unlikely that specimens in bud or fruit can be

identified. It is also helpful to take a digital photo of the flowers close up and also the whole plant for an idea of leaf distribution and branching.

If you are uprooting a plant you will require the landowner's permission and if it is a Site of Special Scientific Interest you will also need to make sure there is a consent in place with Natural England. Specimens should be pressed quickly to prevent the flowers from dropping and always label with the date and location including at least a six figure grid reference (and your name).

The first eyebright records for Shropshire were by Leighton (1841) who described it from 'pastures, both from plains and hills, common'. Peter Yeo made the first systematic determinations of the critical species and hybrids from herbarium specimens and the confirmed taxa are listed below with details of the first and last records.

*E. officinalis* subsp. *anglica* was first recorded from Betchcott in 1955 by A. Martin and the most recent record by Lockton is from Birchen Park, 2010.

*E. officinalis* subsp. *pratensis* was first recorded in 1897 and was last confirmed from the Wyre Forest in 1997 (Lockton and Whild).

*E. arctica* subsp. *borealis* was first recorded by Vera Gordon from a laneside near Oswestry in 1956 and this was confirmed by E.F. Warburg. This subspecies was recorded subsequently from Pennerley Meadows in 1984 by Charles Sinker and at Button Oak, Wyre Forest in 1986 by John Bingham.

*E. arctica* subsp. *arctica* was confirmed for vc40 in 1997 from Pennerley Meadows from material collected by Whild and Lockton. It is possible that both subspecies are present as subspecies *borealis* is the more common taxon in the lowlands and subspecies *arctica* is at one of its most southerly locations in the UK.

*E. ×murbeckii* (*arctica* × *nemorosa*) is an interesting find from Venus Pool, collected from the hay meadow section created from Pennerley Meadows hay (where *E. arctica* subsp. *arctica* is recorded). Hay from several different locations was used at Venus Pool so more hybrid taxa may arise.

*E. nemorosa* is our most common eyebright and the one most likely to be encountered on limestone either on Wenlock Edge or in the north-west of Shropshire on the Carboniferous Limestone.

*E. nemorosa* × *confusa* has been found just once, from Llyncllys Hill collected in 2007 by Lockton and Whild.

*E. confusa* has only been confirmed from Shropshire once, from Townbrook Hollow in 1979, collected by Helen Davidson.

*E. micrantha* was recorded from the canal bank at Whixall in 1936, Dovaston Heath in 1939 and White Grit Quarry in 1975. This is one of the more distinctive eyebrights, usually being found with heather and almost always associated with heathland habitats.

#### References

Stace, C.A. 2010. **A New Flora of the British Isles (third edition)**. CUP.

## Grassroots Recording in Telford Penny Wysome

Although administratively a separate authority, botanically Telford is still Shropshire though possibly botany and Telford are not two words often used together. In recent years an initiative led by Shropshire Wildlife Trust has attempted to raise enthusiasm for the wildlife sites in Telford and to involve groups of residents, with or without any botanical expertise, in investigating what plants are colonising the new town and its environs. Wrekin Forest Volunteers, coordinated by Pete Lambert from the trust has spent two summers visiting sites, with the support of Wrekin and Telford authority and producing lists of species, not exclusively plants. The group started out as a SWT volunteer working group (of which I am a proud member) and were more used to chopping plants down than identifying them so the learning curve has at times been approaching an exponential straight line as they got to grips with floras and keys. November 27<sup>th</sup> 2010 saw the second conference 'What's Wild in Telford' at which the findings for the year were reported, building on last year's initiative. A total of 29 sites have now been visited over the last two summers.

Unlike the more rural parts of Shropshire the wildlife sites in Telford are intermingled with houses and businesses. A green network weaves through the housing and trading estates connecting pockets of woodland and meadow, some of which are relics of an ancient agricultural past, others are reclaimed from an industrial past, and yet more are of recent origin as the new town developed. These concealed landscapes provide considerable biodiversity in Telford which currently is one of the leaders in the ratio of green spaces to population and most residents are only a few hundred metres from a wild green space.

There are 38 Wildlife Sites in Telford, 2 SWT Reserves and 26 Regionally Important Geological Sites as well as some privately owned sites of botanical interest. The famous roundabouts of Telford provide habitats for plants and for birds and insects, as do the verges on dual carriageways which support large Bee Orchid *Ophrys apifera* and Marsh-orchid *Dactylorhiza* sp. colonies. Pit mounds provide acidic soil conditions exploited by heathland plants and it is not unusual to see lizards in the town park on the spoil heap heaths there. 35 small heathlands have been identified in Telford. Lime rich habitats have been created by the movement of quarried limestone and soil so giving rise to further calcareous grasslands and woodlands. Canal systems, rail tracks, quarries and old factories provide further opportunities for successional development of plant communities which join the old hedgerows and overgrown gardens of old farmsteads.

Telford is still changing, with planning pressure on much of the land. Imaginative management by Telford Development Corporation in the 60's and 70's allowed many sites to be untouched, but building expansion is now happening at a huge rate. The Biodiversity legislation requires councils to monitor their wildlife sites and this had not happened to any large extent in Telford. The partnership of the Wrekin Forest Volunteers and the unitary authority has proved mutually beneficial as the knowledge of sites has improved. Some have been re designated as local nature reserves and at the very least, the planning office now knows where the most valuable habitats are.

Botanical expertise built up over time from the early visits by groups of volunteers through experience and as members attended appropriate training courses, especially the Biological Recording Certificate modules. Combinations of photography and id websites were used to help identify species, and a spreadsheet was devised that automatically added Latin names, axiophyte or BAP species, even to a mis-spelled

common name. A total of 322 plant species were recorded in 2010, 69 being axiophytes. How safe are the records? As Alex Lockton and Sarah Whild will testify, not completely safe, but are becoming safer.

The 2010 data gives a good overview of what is wild in Telford; 1640 records were made in 2010 and 1591 in 2009, this includes birds, invertebrates, amphibians and a few small mammals that strayed into our path. Unfortunately none of us have mastered Bryophytes so these are still under-represented. Nigel Cane-Honeysett has become the data processor and he presented the findings at the 'What's Wild in Telford' conference. The full spreadsheet of records is available via the Wrekin Forest Volunteers website: <http://www.wrekinforestvolunteers.com/>.

Sites visited in 2010 include: Blists Hill Pit Mound, Dothill Wildlife Site, Hills Lane WLS, Hinksay FSA, Lightmoor, Limekiln Woods, Muxton Marsh, Priorslee Lake, Waxhill Meadow, Randlay Valley, Wrockwardine Wood and a meadow designated SHLAA603. The richest of these were Lightmoor and Limekiln Woods, part of the ancient woodland extending to the Ercall.

A lot of time was spent looking at very common species with Hawthorn being the holder of the 'found at every site' award. However, this makes the finding of plants such as Shining Crane's-bill *Geranium lucidum* at Priorslee, and Spindle *Euonymus europaeus* at Madeley Court pitmound perhaps more rewarding than usual. One particular site, Marmer's Covert was a revelation. It is a wet woodland on the south side of the Wrekin and contains a rich collection of ancient woodland species, including Herb Paris *Paris quadrifolia*, Sanicle *Sanicula europaea*, Toothwort *Lathraea squamaria*, Wood-sedge *Carex sylvatica* and Sweet Woodruff *Galium odoratum*. It well repays the hazards of streams, swamps and testosterone fuelled bulls to see these plants. The limestone grasslands popping up in unsuspected places produce glorious mixtures of Common Spotted-orchid *Dactylorhiza fuchsii*, *Carex* species and the humble Creeping Buttercup *Ranunculus repens*.

So what are the consequences of all this work other than the records? Practically all the individuals who have been drawn into the surveying have taken some responsibility for improving their own knowledge. Some have adopted a taxonomic group such as Fungi, or Birds to specialise in. Many are actively seeking training courses and making the most of opportunities like Pete Boardman's Biodiversity Training Project. We all learn from each other and thoroughly enjoy this sharing process. Records are regularly sent to appropriate Vice County recorders, most of us did not even know that such people existed 2 years ago. Regular Moth trapping has been established. Some sites now have 'Friends' organisations which aim to continue the work started and involve even more local people in protecting and valuing their wild spaces. The work informs the practical work programme undertaken in autumn and winter so we can continue to maintain habitats and sometimes to improve them.

I am indebted to Pete Lambert and Nigel Cane-Honeysett for the survey data.

Activities of the Wrekin Forest Volunteers can be followed on their website: [www.wrekinforestvolunteers.com](http://www.wrekinforestvolunteers.com).

Field data is presented on the forum: <http://groups.yahoo.com/group/wfv>.

## Ten Targets for Conservation in Shropshire Alex Lockton

Last year there was a discussion amongst members of some of the leading conservation organisations in Shropshire in which interest was expressed in having a list of some of the top actions that are needed, in order to prioritise work and to bear in mind in case opportunities arose. Originally we wanted twenty actions, but ten seems more realistic. If only one or two of these get done in the near future, that will be quite impressive, as any sort of conservation intervention is usually a complex task.

The problem with targets is that they get personal. You start off by saying ‘I want this species to stop declining’ and someone, somewhere, hears ‘you’re not doing your job properly.’ What we need to do is stick to the subject. The list is not about people. None of the organisations involved are being criticised. Nothing we say here should in any way jeopardise anybody’s ego, income or reputation. Forget about people for a moment, and think about the plants. The list below is not a comprehensive account of everything that should be done; it is simply a list of some things that need to be done. Some of the big reserves, like the Stiperstones and the Long Mynd, are not included, because they seem to be well managed and in pretty satisfactory condition at the moment.

**Target 1** Apart from this one, all the actions below are about practical conservation. But as has become accepted in medicine in recent years, evidence and reporting is essential to good practice. We must not see it as bureaucratic to collect evidence about what works and what doesn’t. Reporting the evidence is the only way in which knowledge can advance, and future conservation depends on it. All conservation organisations should undertake to publish the results of their ‘interventions.’ One day this will be a legal requirement for anyone who receives public funding. Conservation action should be treated like the testing of a new medical drug. First you state your rationale and objectives clearly; then you do the work; and finally you write them up in a scientific way. If organisations were required to do that, it could save a fortune in unsuitable actions that are already known not to work. There is no excuse for not doing this. Visit [www.conservation-evidence.com](http://www.conservation-evidence.com) to find out more. Natural England needs to act on this: all management funding of over £20,000 should come with an absolute requirement that a paper is published in this or an equivalent journal. Note that negative results are just as valuable as positive ones, and must also be published. All the targets written here are empirical and are stated in such a way as it would be easy to report on them. They are based on the best scientific evidence that we currently have. If the actions are taken and they don’t work, then we need to know that.

**Target 2** Brown Moss is the only really internationally important site in Shropshire. It is in many ways the last of the entire meres & mosses, although in the last decade it has lost almost everything on it that matters. It is now time to take the gloves off, bring out the bulldozers, and get to work restoring it. There is nothing to lose. Happily, we know exactly how to manage this site because there is another place that is almost identical, and it has been successfully restored. That other site is Dowrog Common in Pembrokeshire, where cattle grazing was reintroduced a few decades ago, and Floating Water-plantain *Luronium natans* and Pillwort *Pilularia globulifera* now both thrive. Stephen Evans, the county recorder, says that *Luronium* only grows along the edges of the cattle tracks across the shallow pools. That’s what is needed at Brown Moss. It is very simple indeed: get livestock grazing around the main pool again. Nothing else constitutes even the vaguest attempt at conservation. Success is a good population of Floating Water-plantain. But let’s avoid the mistake they made at Dowrog and not plant

Pillwort, because now everyone thinks of that as an introduced species, which the locals consider to be most unfair.

**Target 3** Wem Moss. This was the best lowland raised bog in the county. It had 13 species of *Sphagnum* moss, 3 species of Sundew *Drosera* spp., Meadow Thistle *Cirsium dissectum*, Bog-rosemary *Andromeda polifolia*, 3 species of peat bog orchid, Many-stalked Spike-rush *Eleocharis muticaulis* and White Beak-sedge *Rhynchospora alba*. The Shropshire Wildlife Trust purchased the site and have tried to keep the site wet but many of these species have now gone. The bog is too dry and is largely wooded. The solution is pretty straightforward – cut down lots of trees, get it grazed (preferably with cattle), keep the water level high. Measuring success is also pretty easy – lots of just one NVC community, M18 *Erica tetralix-Sphagnum papillosum* raised & blanket mire, and good populations of axiophytes.

**Target 4** Earl's Hill has some lovely acid grassland on the summit and on the slopes of the Craft Valley on the western side but for some reason there has been decades of neglect to the slightly calcareous eastern side of the hill. This is where there were MG5 meadows full of Adder's-tongue Fern *Ophioglossum vulgatum*, Rose-moss *Rhodobryum roseum* and Pink Waxcap *Hygrocybe calyptriformis*. These have all disappeared under species-poor scrub, as has the scree with its Rock Stonecrop *Sedum forsterianum* and Bloody Crane's-bill *Geranium sanguineum*. The meadows outside the old part of the reserve are still quite good, but several years of neglect is already starting to show. This is every bit as damaging as ploughing and fertilising. The dreary Hawthorn scrub that takes the place of the grassland is a virtual monoculture. Management would be relatively simple: cut back the scrub and graze the grassland – manage the habitat appropriately, don't garden it with teams of volunteers armed only with secateurs and saws. Target: lots of MG5 grassland and scree with Rock Stonecrop.

**Target 5** Haughmond Hill was a SSSI but its conservation status was retracted when it was planted up with conifers. The correct response would surely have been to take the conifers off again. However, the recent Flora of Haughmond Hill shows that all the species and habitats are still lurking there in the patches between the conifer blocks, and the hill could easily be restored to a mosaic of bogs, heathland, acid grassland and parkland. There's nothing complicated about it. Ideally, manage it as a deer park. There are lots of people who know how to do this. The axiophytes are well known and easily monitored.

**Target 6** Prees Branch was a fabulous site when it was made a nature reserve back in the 1970s –another site for Floating Water-plantain plus Grasswack Pondweed *Potamogeton compressus* and other water plants that are now extinct in the county. The problem is that the Wildlife Trust is not equipped to manage a canal, and the canal people don't want anything to do with it as it is now officially a nature reserve. This was an unfortunate trap that should have been foreseen. All that needs to be done is to manage the canal as a canal again. Lay the hedges, mow the towpath, keep the channel watertight, dredge it every now and then. But don't allow any boats to run down there with their propellers turning. Just drag them along with horses as a treat for tourists. A little bit of entrepreneurial flair is all it would take to turn a profit from this. There is every reason to believe that the water plants would return within a year or two, with no need for deliberate introductions. The curious thing about the Prees Branch is that its restoration would be so easy that it is a real surprise that it has yet to be attempted. Perhaps the value of the site has not been fully recognised. A genuine success is almost guaranteed.

**Target 7** Cole Mere has been in some ways a great success for conservation. Yell Meadow is very well managed, and Shropshire Council has managed to keep trees off the shoreline adjacent to the meadow. There are also deep, dark bits of wet woodland with splendid rare plants. But much of the circumference of the mere is the typical dismal wooded shore that you see around most of the meres. A little bit of action has been taken, but not enough. Most of these actions are about cutting down trees, and there is no way of avoiding this at Cole Mere. But once the trees are felled, you need a sustainable management regime. For a bit of variety, why not go for a Victorian-style promenade, with a mown lawn around the margin. Set out to enhance the vista and the plants will reward you. The target species: Least Water-lily *Nuphar pumila* at its only remaining site in England.

**Target 8** Moelydd is a fine limestone hill in the north-west of the county. It includes Jones's Rough nature reserve and a lot of reasonable quality habitat as well. Jones's Rough is in a terrible state, though. It is fenced off and neglected, and has mostly turned to woodland, much of it dominated by yew trees. Meanwhile, the rest of the hill is rather dominated by Bracken. Given all the agricultural schemes and subsidies that are available, some of the money should be spent on some of the good sites. The target is good grassland over much of the hill, and especially in the places where the nationally rare Limestone Prickly-sedge *Carex muricata* ssp. *muricata* grows.

**Target 9** Studies show that White Mere is the mere which has lost the most species most recently, which makes it a promising candidate for restoration. Plants that have died out in the recent past may well have a viable seed bank still present, and the habitat might not have changed irreversibly. This site would be a good one on which to try out restoration techniques, and a suitable representative of all the meres. The axiophytes are well known, due to good survey data.

**Target 10** Cramer Gutter has been a reserve for a few decades now, and it has just about held on to its rarities. But it is still drying up and scrubbing over. As a consequence of heroic efforts by the Wildlife Trust, most of the scrub in the meadow has been removed, but the hedges around the edge are now 20 m tall and the trees are sucking the water out of the ground. A nice neat pond was constructed and fenced off but it, too, is only helping the site to dry out. Remove the pond and create a muddy watering hole instead. That's how it used to be. All this is needed to save the Marsh Gentian *Gentiana pneumonanthe* and a host of other interesting wetland species.

Could all or some of these targets be achieved? Yes, of course they could. Most of the land is in sympathetic ownership. The management actions required are quite well known. The budget for nature conservation even in these constrained times is hundreds of times greater than is needed. As conservationists, we need to remember what our core business is and we need to be good at it. Otherwise, who actually needs us? Why should people go on paying for nature conservation if (a) it does not work and (b) we collectively refuse to even report on why it is failing. If anyone can take one of these targets and implement it successfully, we should commit ourselves to praising that success when it happens, and learning the lessons.

Membership is **£10 a year or £20** for three years and is due for renewal on Jan. 1<sup>st</sup> of the year shown. Please send cheques to Shropshire Botanical Society, c/o Mark Duffell 19 Compton Mews, Ford, Shrewsbury, SY5 9NX. If your name is in bold your renewal is now due.

Andrew Allott, Shrewsbury	2013	Ray Knowles, Shrewsbury	2013
<b>Janet Allwood, Ludlow</b>	<b>2010</b>	<b>James Lawson, Pontesbury</b>	<b>2011</b>
Mia Armstrong, Bridgnorth	2012	<b>Jane Lennox, Knighton</b>	<b>2010</b>
<b>Audrey Ashwell, Craven Arms</b>	<b>2011</b>	<b>John &amp; Marjorie Leonard, Craven Arms</b>	<b>2011</b>
<b>N.H. Barnett, Lea Cross</b>	<b>2010</b>	Stephen Lewis, Pontesbury	2013
<b>Mike Baskeyfield, Newcastle</b>	<b>2011</b>	<b>Susan Lewis, near Ellesmere</b>	<b>2010</b>
Danny Beath, Shrewsbury	2012	Carol Little, Shrewsbury	2013
Keith Bell, Shrewsbury	2013	Alex Lockton, Shrewsbury	2013
<b>Frank Bentley, Shrewsbury</b>	<b>2011</b>	Margaret Markland, Shrewsbury	2014
John & Denise Bingham, Kidderminster	2012	Frances McCullagh, Wolverhampton	2012
<b>Peter Boardman, Shrewsbury</b>	<b>2010</b>	<b>Rachel Meade, Powys</b>	<b>2011</b>
Michael Braithwaite, Roxburghshire	(hon.)	<b>Rob Mileto, Shrewsbury</b>	<b>2011</b>
<b>Don Briggs, Church Stretton</b>	<b>2010</b>	Chris Mitchell, Shrewsbury	2013
Shirley Burton, Nantwich	2012	Jane Morris, Shrewsbury	2013
Arthur Chater, Aberystwyth	2014	Rose Murphy, Camborne	(hon.)
<b>Julie Clarke, Beetham</b>	<b>2010</b>	<b>Nick Musgrove, Wolverhampton</b>	<b>2011</b>
John Clayfield, Clunton	2014	Patricia Noble, Newport	2012
<b>Bernard &amp; Mollie Coleman, Telford</b>	<b>2011</b>	Steve & Elise O'Donnell, Albrighton	2013
<b>Phillip Cornish, Shrewsbury</b>	<b>2011</b>	Philip Oswald, Cambridge	(life)
Mags Cousins, All Stretton	2014	John Packham, Bridgnorth	(life)
Helen Critchley, Pontesbury	2013	Pat Parker, Baschurch	2012
Hugh Cutler, Shrewsbury	2012	David Pearman, Truro	(hon.)
Elizabeth Dale, Shrewsbury	2013	Tess Pearson, Bishops Castle	2014
<b>Joan Daniels, Shrewsbury</b>	<b>2011</b>	Chris Preston, Crowmarsh Gifford	hon.
Ruth Dawes, Trefonen	2014	<b>Jan Pursaill, Shrewsbury</b>	<b>2010</b>
<b>Iain Diack, Wolverhampton</b>	<b>2011</b>	<b>Matthew Race, Birmingham</b>	<b>2011</b>
Anne Dickinson-Flint, Shrewsbury	2013	Paul Reade, Kinver	2013
<b>Pat Driscall, Whitchurch</b>	<b>2011</b>	Tim Rich, Cardiff	(hon.)
Mark Duffell, Shrewsbury	2014	<b>Rob Rowe, Craven Arms</b>	<b>2011</b>
<b>Sian Edwards, Welshpool</b>	<b>2011</b>	Anne Shaw, Edgmond	2014
<b>Glenys Evans, Llanfyllin</b>	<b>2011</b>	<b>Ron Shoubridge, Ludlow</b>	<b>2010</b>
<b>Joan Fallows, Co. Clare</b>	<b>2011</b>	David Smith, Telford	2013
<b>Rosa Ford, Whitchurch</b>	<b>2011</b>	<b>Les Smith, Ross-on-Wye</b>	<b>2011</b>
<b>Laura Fox, Craven Arms</b>	<b>2011</b>	<b>Sandra Spence, Craven Arms</b>	<b>2011</b>
Angela Fricker, Shrewsbury	2013	Clive Stace, Ullesthorpe	(hon.)
<b>Heather Garrett, Tywyn</b>	<b>2011</b>	Sarah Stafford, Leominster	(life)
<b>Peter Gateley, Lancashire</b>	<b>2011</b>	Anne Stephens, Montgomery	2014
Rosalind Gillard, Bishops Castle	2013	Rob Stokes, Shrewsbury	2014
<b>Damian Glynn, Shrewsbury</b>	<b>2011</b>	Janet Stone, Shrewsbury	2016
Martin Godfrey, Stafford	2012	Sue Swindells, Oswestry	2013
Fiona Gomersall, Lydbury North	2013	Ian Thompson, Shrewsbury	2013
<b>Richard Gornall, Leicester</b>	<b>2011</b>	Jo Thompson, Shrewsbury	2013
Amelia Grant, Coalbrookdale	2013	<b>John Thompson, Harmer Hill</b>	<b>2011</b>
<b>Pam Green, Ratlinghope</b>	<b>2010</b>	<b>Stephanie Thomson, Hereford</b>	<b>2011</b>
Llew Guest, Shrewsbury	2012	<b>Kate Thorne, Church Pulverbatch</b>	<b>2011</b>
<b>Lalage Hampson, Shrewsbury</b>	<b>2010</b>	<b>Rosemary Thornes, Shrewsbury</b>	<b>2011</b>
John Handley, Shropshire	2014	Mary Thornton, Oswestry	2013
Annie Hazelhurst, Oswestry	2013	Sue Townsend, Montford Bridge	2013
Melanie Heath, Shropshire	2012	Ian Trueman, Wolverhampton	(life)
Brian Herring, Telford	2012	<b>Caroline Uff, Craven Arms</b>	<b>2011</b>
Pirkko Higson, Oswestry	2014	<b>Jenny Vanderhook, Cleobury Mortimer</b>	<b>2011</b>
Hilary Hillier, Bromyard	2013	Chris Walker, Condover	(life)
Maurice Hoare, Montford Bridge	2013	Tom Wall, Lydbury North	2012
<b>Vivienne Hodges, Shrewsbury</b>	<b>2010</b>	<b>Hilary Wallace, Hereford</b>	<b>2011</b>
<b>Jenny Hodgkiss, Market Drayton</b>	<b>2011</b>	Julia Walling, Ludlow	2013
<b>Paul Hope, Shrewsbury</b>	<b>2011</b>	Neville Walters, Stoke on Trent	2014
Hugh Hughes, Albrighton	2012	Sarah Whild, Shrewsbury	2013
<b>Rachel Hunter, Macclesfield</b>	<b>2011</b>	<b>Phillipa Willcox, Bayston Hill</b>	<b>2011</b>
<b>John Ibbott, Shrewsbury</b>	<b>2011</b>	Gillian Wilson, Pontesbury	2013
<b>Jane Ing, Baschurch</b>	<b>2011</b>	<b>Dan Wrench, Shrewsbury</b>	<b>2010</b>
<b>Ron Iremonger, Shrewsbury</b>	<b>2010</b>	<b>Colin Wright, Shrewsbury</b>	<b>2011</b>
<b>Bill Kavanagh, Newcastle-under-Lyme</b>	<b>2010</b>	<b>Jean Wynne-Jones, Ledbury</b>	<b>2010</b>
<b>Sylvia Kingsbury, Bishops Castle</b>	<b>2011</b>	Penny Wysome, Wellington	2013
Nadia Kingsley, Bridgnorth	2012	<b>Dorothy Young, Clun</b>	<b>2011</b>
Mark & Claire Kitchen, Berkeley	2013		

## Lowland Fens in Shropshire



Tufted Sedge *Carex elata*, Bomere Pool SSSI (Iain Diack, April 2008)



Tufa forming around a small upwelling at Trefonen Marshes SSSI (Iain Diack, 2009)

## Orchids in Meadow creation at Venus Pool



Green-winged Orchid *Anacamptis morio*, Little Stocking Plot (Ian Trueman)



Marsh-orchid *Dactylorhiza* (*D. fuchsii* × *praetermissa*), Mottey Plot (Ian Trueman)