



WELCOME AND INTRODUCTION

RACHEL MURPHY



Welcome to the 2023 NPMS Summer newsletter! What a changeable few summer months we have had thus far. From a blistering start, with the hottest June on record, to somewhat of a wash out in late July and the start of this August. But this does not appear to have deterred our ever-committed team of NPMS volunteers.

It has been an incredibly busy first half of the year for the scheme, which has seen our support team grow (p.9). Also a review of NPMS square availability, resulting in a mass release of inactive squares. We have since welcomed over 150 new volunteers, being allocated ~270 survey squares just in the last 6 months – Welcome to the NPMS volunteer community!

May saw the launch of our NPMS 2022 Annual Report, followed by a raft of media attention in June, owing to the publication of new research into how different habitats are likely to be impacted by climate change in the coming years (p.9).

Our ongoing programme of training and events has continued to prove popular through the season (p.7). It has been a delight to offer more in-person opportunities than in recent years, having been joined by 70 volunteers in-field since March.

Though we may be hanging up our clipboards and filing away the recording forms during the autumn and winter months, we will still have more online training and development opportunities right through to the new year.

I'm sure many will be heading out soon for the later summer survey and we are looking forward to hearing how you get on. For many that have joined us this year, it will be your first survey with the scheme! As ever, thank you for all your time and hard work. Please don't hesitate to get in touch if you would like any further support with your data entry. We love to hear from and share stories and experiences from our fabulous volunteers. You may spot we have included more in this edition. Get in touch if you may be interested in sharing your plot stories, either as a blog, newsletter piece or even as part of an online volunteer meet.

Pyramidal Orchid *Anacamptis pyramidalis*, Rachel Murphy



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The whole nine ~~years~~ years

Long-term monitoring using a consistent methodology is incredibly important for enabling us to understand the health of our habitats and the drivers and processes impacting our landscapes. Meet two of our incredible volunteers, that have been conducting their NPMS surveys since the scheme began in 2015, making 2023 their 9th year of monitoring their plots.

Meet: Margaret Reynolds
Region: North Yorkshire
Number of squares: 3

"I started the 'wild flower count', which preceded the NPMS, over 10 years ago and when I retired I

was keen to become more involved with monitoring. I've been interested in plants since childhood and studied and worked in horticulture for many years. Now I have more time, I can pursue my interest in wildflowers, although I have had little previous experience of monitoring."

My first NPMS square is in the North Yorkshire Moors National Park (NYMNP). It has a good range of habitats, including moorland, grassland, and a stream with a cliff bordering it. The hedgerow plot used to have many interesting woodland plants but it hasn't been trimmed for at least 12 years. Once when surveying the woodland plot, a pair of buzzards were nesting in the trees above and took great exception to me being there.

Margaret has submitted data for an **incredible 105 NPMS surveys in total.**

Last year I took on two more squares. One is also in the NYMNP and ranges from moorland, down a steep valley side where water flushes out, and to a flat valley bottom with wet woodland. One nice thing about the square is that I travel there on the steam train.



My third square is on the tabular hills and is in an area of intensive arable farming. Though there is a steep valley side included in the square so it is inaccessible and mainly planted with conifers, I have managed to find four different habitats to monitor. It was interesting to see that the arable plot had a very different assemblage of 'weeds' this year.

I feel I've gained a lot of botanical knowledge through the surveys. Plants I'm not sure about cannot be ignored. It has also improved my computer skills. The best part however is getting out into the countryside and thinking I am doing something really useful."



Meet: Richard Hughes
Region: Pembrokeshire
Number of squares: 1

"I have been a life member of Plantlife almost since its inception. I have had a lifelong interest in finding and identifying plants which started at school when I undertook a study of *Chamaenerion angustifolium*."

Richard's square lays on the north coast of Pembrokeshire and includes the cliffs, cliff tops and Pembrokeshire coast national path. He has been surveying plots in this same square, at least once a year since 2015, massing data for a total of 45 surveys, including data already submitted for this 2023 field season.

"I have become better at identifying plants and had a very helpful online course with a mentor organised by the NPMS a few years ago. I have also attended a face-to-face course on grasses at Reading University which was very useful."



"I have enjoyed being part of a national scheme, putting my botanical knowledge to good use and improving my identification skills."





Habitat Hotspot – Kevin Walker, BSBI

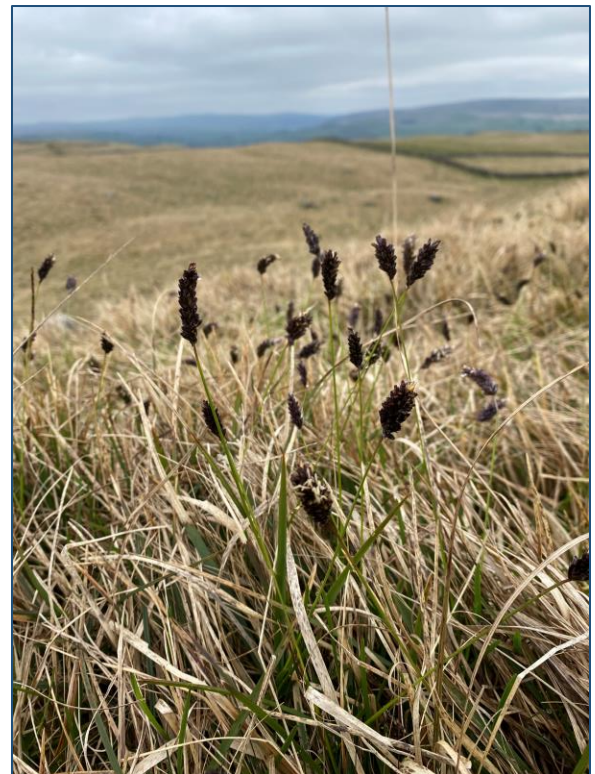
Upland Calcareous Grassland

Many of you will be very familiar with the iconic chalk downlands of lowland Britain but probably less so with their upland equivalents in the north and in Ireland. This rather diverse group of upland calcareous grasslands is the focus of this habitat hotspot which aims to introduce their composition, ecology, and some of the main threats that they face.

Composition

Most of our upland calcareous grasslands are restricted to the ‘hard’ substrates such as limestone or basic igneous rocks above 300m, although some that have been metamorphosed by volcanic activity are very soft and easily weathered, such as the famous ‘sugar’ limestones of Teesdale or the mica-schists of the Ben Lawers range in Perthshire. Most of the rock types occur in northern Britain and scattered mountainous regions of Ireland but they also extend down to sea-level on some western and northern coastlines, such as in the Burren, on the north coast of Scotland and around Morecambe Bay in Lancashire.

Possibly the most familiar grasslands occur in the dramatic limestone landscapes of the Burren in western Ireland and in the Yorkshire Dales, especially around Malham Tarn and on the lower slopes of Ingleborough. Most of these grasslands occur on flat expanses of Carboniferous limestone and are dominated by **Blue Moor-grass** *Sesleria caerulea*, a Nationally Scarce plant restricted to northern England, western Ireland and a few isolated localities in Scotland. It is a lovely grass that is at its best in April and May, when its iridescent purple-blue flowers add much needed colour to the rather drab upland scene. It gives its name to two British vegetation types only one of which is truly upland (*Sesleria albicans-Galium sternerii* grassland or ‘CG9’), being restricted to the Carboniferous limestones of northwest England where its frequent companion is **Limestone Bedstraw** *Galium sternerii*, another very localised plant that eschews acid soils, unlike the calcifuge **Heath Bedstraw** *G. saxatile* which is far more common. The two species look identical but can be told apart by the direction of the teeth on the leaf margins – **Limestone Bedstraw’s** face backward whereas those of **Heath Bedstraw’s** face forward. The second vegetation type (*Sesleria albicans-Scabiosa columbaria* grassland or ‘CG8’) is confined to the Magnesian limestones of the Durham Coalfields – this grassland shares many similarities with their Yorkshire equivalents although they are lowland in species composition and so are not discussed further here.



Blue Moor-grass *Sesleria caerulea* is abundant in limestone grassland throughout the Yorkshire Dales.
Photo: Kevin Walker.

Throughout northern Britain and Ireland, most upland calcareous grasslands occur at much higher altitudes where base-rich rocks, such as metamorphosed schists and igneous (ultrabasic) rocks outcrop on mountain slopes and summit plateaus. Due to the greater levels of leaching, these montane grasslands are much more closely allied to acid (calcifugous) grasslands in composition than in the lowlands, sharing many of the same species such as **Brown Bent** *Agrostis capillaris*, **Harebell** *Campanula rotundifolia*, **Heath Bedstraw** *Galium saxatile*, **Mat-grass** *Nardus stricta*, **Sheep’s Fescue** *Festuca ovina*, **Tormentil** *Potentilla erecta* and **Wild Thyme** *Thymus praecox*.



Montane Calcareous Grasslands cont.



Wild Thyme *Thymus praecox*, Sarah Shuttleworth



Harebell, *Campanula rotundifolia*, Sarah Shuttleworth

However, the herb and sedge components are distinctively more calcicolous, with a host of montane species with restricted distributions in the British Isles, such as **Alpine Bistort** *Persicaria vivipara*, **Alpine Cinquefoil** *Potentilla crantzii*, **Alpine Lady's-mantle** *Alchemilla alpina*, **Alpine Meadow-rue** *Thalictrum alpinum*, **CypheI** *Cherleria sedoides*, **Moss Campion** *Silene acaulis*, **Mountain Avens** *Dryas octopetala* and **Sibbaldia** *Sibbaldia procumbens*.



Alpine Bistort *Persicaria vivipara*, Andrew Gagg



CypheI *Cherleria sedoides*, Andrew Gagg

These grasslands provide a refuge for many rare arctic-alpines and consequently they have been a mecca for botanists for centuries; much has been written about their key localities, such as Ben Lawers, Glen Clova, Caenlochan, Inchnadamph, and Creag Megaidh, and the botanical treasures that they contain (Michael Scott's *Mountain Flowers* provides an excellent and up-to-date account). Often these upland calcareous grasslands grade imperceptibly into more species-poor upland acid grassland or very closely related calcareous communities in snow beds, on mountain heaths

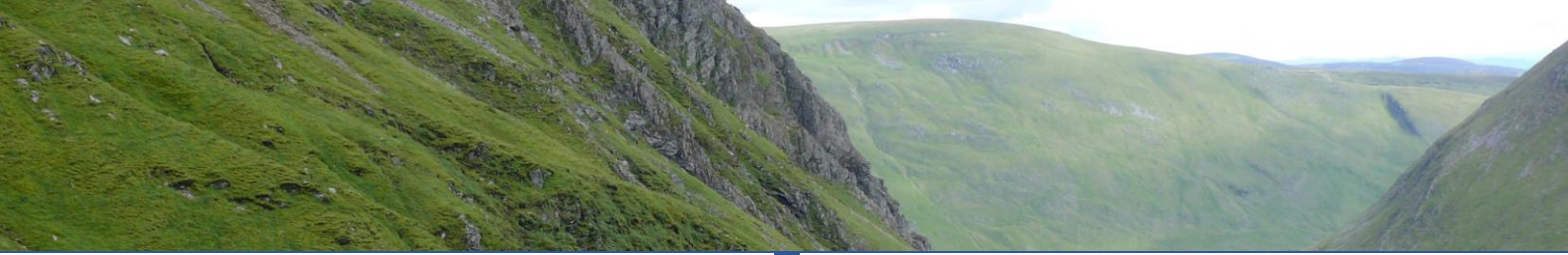
and ledges, on disturbed, gravelly exposures or in calaminarian grassland on soils rich in heavy metals.



Calcareous grassland on rock ledges on Ben Vrachie, Perthshire. These slopes are derived from lime-rich schists and support populations of **Purple Oxytropis** *Oxytropis halleri* and **Alpine Milk-vetch** *Astragalus alpinus*. Photo Kevin Walker.

Ecology

Like their lowland counterparts, the ecology of upland calcareous grassland depends largely on the infertility and base-richness of its soil which restricts the types of species that can grow there, creating an assemblage of specialists, the precise composition of which varies with soil moisture, altitude, and climate. These grasslands hint at our glacial past as they combine the conditions that would have been more widespread at the end of the last ice age, with large expanses of base-rich substrate and immature soils. The low levels of competition, lack of tree cover, a harsh climate, and skeletal soils creates an environment perfect for these arctic-alpines to persist.



Montane Calcareous Grasslands cont.

The widespread development of peaty soils since the end of the last ice-age in our wet, oceanic climate means that these conditions are now restricted to where these base-rich rocks outcrop or where their eroded remains have been deposited in areas that are constantly disturbed, such as on unstable slopes and river gravels.



Mountain Avens *Dryas octopetala* growing with **Early Purple Orchid *Orchis mascula*** on Mullagh More in the Burren, western Ireland. These grasslands are most similar in composition to upland calcareous grassland in Britain and Ireland but here grow close to sea-level. Kevin Walker.

Because upland calcareous grasslands experience much higher levels of rainfall than their southern counterparts, the leaching of minerals and nutrients means many of the more exacting calcicoles of the lowland grasslands are absent whereas plants that favour more acid conditions, such as **Tormentil *Potentilla erecta*** and **Mat-grass *Nardus stricta***, are more prominent, as are plants of moister soils, especially sedges *Carex* spp. and attractive herbs such as **Common Butterwort *Pinguicula vulgaris***,

Bird's-eye Primrose *Primula farinosa* and **Grass-of-Parnassus *Parnassia palustris***. Another striking feature is the mix of species with markedly differing biogeographies, often comprising plants with both southern and northern ranges in Europe. For example, on the sugar limestones of Teesdale, species more at home in the Mediterranean such as **Hoary rock-rose *Helianthemum oelandicum*** and **Horseshoe-vetch *Hippocrepis comosa*** rub shoulders with species more typical of the arctic tundra such as **Mountain Avens *Dryas octopetala*** (as does the Mediterranean **Dense-flowered Orchid *Neotinea maculata*** in the Burren).



Mountain Avens *Dryas octopetala* growing with the Mediterranean species Hoary Rock-rose *Helianthemum oelandicum* on sugar limestone on Cronkley Fell, Teesdale. Photo: Kevin Walker.

Threats

Although our upland calcareous grasslands have been less susceptible to the impacts of intensive agriculture and abandonment than in the lowlands, they have faced several threats which have reduced their extent and quality in recent decades. Possibly the most widespread has been overgrazing by sheep, and in Scotland red deer, which often favour the richer calcareous swards in otherwise acid upland landscapes. These high stocking levels have reduced the abundance of many palatable herbs and grasses, including many of our rarer upland calcareous grassland species.



Montane Calcareous Grasslands cont.

In some areas, switching from sheep to extensive grazing by cattle has produced astonishing results, with remarkable recoveries of species, such as on Sulber Pasture on Ingleborough where species such as **Bird’s-eye Primrose** *Primula farinosa* and **Early Purple Orchid** *Orchis mascula* are now flowering in profusion where once they were barely noticeable. In other areas, the decline of sheep grazing following the major outbreak of Foot-and-Mouth disease in 2001 has resulted in the discovery of new populations of rarities such **Sheathed Sedge** *Carex vaginata* and **Alpine Foxtail** *Alopecurus magellanicus*.



Bird’s-eye Primrose *Primula farinosa* and **Early Purple Orchid** *Orchis mascula* flowering in limestone grassland on Sulber Pasture, Ingleborough. Both species have seen a dramatic increase in abundance in recent decades following the introduction of extensive cattle grazing. Photo: Kevin Walker.

Much less obvious threats have been the impacts of atmospheric pollution and climate change. Repeat monitoring of plots in many upland grasslands in recent years has shown that the composition has changed since the 1950s, with swards becoming more acidic in character, grass-dominated and species-poor over time, which has been correlated with increased atmospheric deposition of nutrients (especially nitrogen) in upland and montane regions in recent decades (e.g. Britton et al., 2009; Berg et al., 2010; Ross et al., 2012).

To date there has been little direct evidence of the impact of climate change although studies that have simulated the ‘warming’ of microclimates experimentally have shown shifts in species composition towards more productive species that benefit from longer growing seasons (Fridley et al., 2016). The increased frequency and severity of droughts are also likely to be a major threat to these grasslands in the future too, as has been shown by worked carried for the NPMS partnership, which assessed the exposure of British habitats to predicted climate change (Wilson & Pescott, 2023).

Calcareous grasslands, including those at high elevations, came out as one of the most exposed habitats and therefore likely to undergo the greatest change. This is a salutary finding that suggests that many of our rare more northerly distributed species, so characteristic of these upland calcareous grasslands, could become rarer still in the decades ahead.

References

Berg, L.J.v.d., Vergeer, P., Rich, T.C.G., Smart, S., Guest, D., Ashmore, M. 2010. Direct and indirect effects of nitrogen deposition on species composition change in calcareous grasslands. *Global Change Biology*, 5: 1871-1883.

Britton, A.J., Beale, C.M., Towers, W. & Hewison, R.L. 2009. Biodiversity gains and losses: Evidence for homogenisation of Scottish alpine vegetation. *Biological Conservation*, 142: 1728–1739.

Fridley, J.D., Lynn, J.S., Grime, J.P., & Askew, A.P. 2016. Longer growing seasons shift grassland vegetation towards more-productive species. *Nature Climate Change*, 6: 865.

Ross, L.C., Woodin, S.J., Hester, A.J., Thompson, D.B.A. & Birks, H.J.B. 2012. Biotic homogenization of upland vegetation: patterns and drivers at multiple spatial scales over five decades. *Journal of Vegetation Science*, 23: 755–770.

Wilson, O.J. & Pescott, O.L. 2023. Assessing the exposure of UK habitats to 20th- and 21st-century climate change, and its representation in ecological monitoring schemes. *Journal of Applied Ecology* <https://doi.org/10.1111/1365-2664.14455>.



Support and guidance

So far, this season has seen a variety of training and development opportunities through our popular training programme. From live webinars, in-field training days and online interactive workshops, we have thus far delivered 15 events to 491 participants since spring. We have enjoyed getting back out into the field and are looking to visit different regions for future field meets. Our [NPMS Support YouTube channel](#) continues to grow in both popularity and videos provided. Here you can find recordings of all past webinars, along with extra guidance and support videos – added to regularly. Our new-look [training and events webpage](#) now provides a one-stop hub for all training opportunities and resources. There is still plenty more to come in 2023, so do keep an eye out for new events becoming available soon.



Rachel Murphy

Online Training Resources

Materials that can be downloaded and viewed at your convenience.



Training Events

Upcoming in-field and virtual events, workshops and meets.



Training Webinars

Upcoming training webinars and links to recorded past sessions.



My Events

Sign up to upcoming events and view those previously attended.



NPMS Training Resources and Events web page.





Still to come and available to register...

14 th Sept. 12:30	Flushes and Springs Webinar – With Ben Averis
2 nd Nov. 12:00	NPMS survey methodology Webinar – With Rachel Murphy



Coming soon!

We will soon be releasing details and opening registration for our winter mini-series of volunteer events. A fun and informal series, this season including:

-  Botany Book Club
-  Botanical Art workshop
-  Vegetation of urban places
-  Additional talks



Frequently asked questions:

The habitats on my habitat map don't match what I'm seeing. What should I do?

Don't worry, you're not seeing things, it is quite a common question. The maps were created as a guide at the start of the project, using land cover maps and composite estimates. So you might find the habitats, are not entirely accurate for your whole square. There's no better way of determining the habitat type than getting your boots on and ground truthing your square to get to know it properly. When you come to record, you will need to record the species on the list which is most appropriate to the habitat that you have identified.

What if the habitat classification of one of my plots has changed since I started?

Over time a plot may change habitat type due to management or environmental changes. This isn't a problem and is the sort of change we'd like to detect. Use the most appropriate species list at the time of the survey. If your plot turns into a habitat that isn't covered by NPMS, continue surveying with the species list for as long as possible. It is important that these plots continue to be monitored in case they re-enter the scheme at some point.



Fabulous ferns!



Did you miss out on our Fern identification workshop? Perhaps you did take part, and it has given you the bug to learn more!

Watch a recorded introduction to Fern identification session here: [An introduction to Fern ID](#)
For a more in depth, self-guided and interactive e-learning course created by Plantlife, visit: [Identifying Woodland Ferns](#)

SPECIES SPOTLIGHT

Creeping Thistle (*Cirsium arvense*)
Karen Fisher

Other colloquial nicknames for thistles include: Dashels, Donkey's Breakfast, Dicels

Confusion species: Marsh Thistle, Spear Thistle, Musk Thistle, Dwarf Thistle

Identification: The erect flower-stalks of Creeping Thistle are furrowed, but not winged or spiny, and not cottony.



Soldier beetles and a visiting bee: Karen Fisher



Furrowed stems, not prickly

Recorded as a negative indicator in 15 NPMS fine habitat categories, Creeping thistle (*Cirsium arvense*) is the most common of the thistle species in the UK. It can form dense colonies.

It can grow up to 150cm tall and the flower heads are usually 10-15mm across. They range in colour from pale red, to pink, to lilac on top of darker bracts.

Creeping thistle produce masses of fluffy wind-borne seeds in late summer. These seeds are important for a variety of bird species. It is wonderful to see Goldfinch feeding on them in summer.

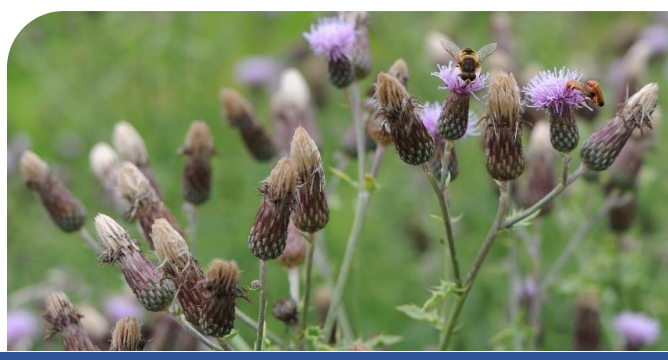
They are often considered an unwelcome weed on agricultural land. Indeed, cultivation rhymes from the 1860's exist drawing on the farmer's aversion to them:

*Cut thistles in May, they grow in a day.
Cut thistles in June, that is too soon.
Cut thistles in July, and then they will die*



However even when cut, the flowering stems will go to seed left in situ.

Left: Flower heads showing some that have begun to turn to seed, these will become wind-borne later in summer.
Image: Karen Fisher



Sarah Shuttleworth

Creeping thistle flower heads are visited by butterflies, moths, hoverflies, bees, and wasps for nectar or pollen. The leaves are a foodplant for the Painted Lady caterpillar, as well as several species of aphid.

The open structure of the flowers attracts the predatory Common Red Soldier Beetle



which feed on aphids, and also eat pollen and nectar. They can often be seen gathering on the top of the thistle flower heads to feed and mate

Image: Karen Fisher

The dead prickly flower heads and foliage make a good protective environment for many species through the winter months.



NEWS AND RESEARCH

NPMS Annual Report 2022

Earlier this year, we published the second NPMS Annual Report. This is available on the NPMS website [here](#). The NPMS Annual Report 2022 provides a summary of data from the scheme and highlights from the 2022 season, along with research updates and volunteer experiences.

National Plant Monitoring Scheme

Annual Report 2022

Robust research on and monitoring of plant species, the life-supports of our habitats and ecosystems, are essential in understanding the effects of growing pressures on the countryside.

The National Plant Monitoring Scheme is a nationwide partnership project, supported by hundreds of dedicated citizen scientists, heading out annually to conduct botanical surveys at their allocated sites. These long-term surveys in random 1 km squares continue to provide a growing dataset across the UK, enabling us to study the abundance and diversity of plants through time across 30 different semi-natural habitats.

www.npms.org.uk

Partners: Botanical Society of Britain & Ireland, JNCC, Plantlife, NIEA, UK Centre for Ecology & Hydrology.

NPMS Annual Report 2022
Highlights in numbers

Broad habitat	Number of plots (and samples) overall	Number of plots (and samples) 2022
Broadleaved woodland, hedges and scrub	1,490 (6,629)	359 (582)
Lowland grassland	1,370 (5,824)	354 (564)
Coast	304 (1,446)	93 (133)
Arable margins	385 (1,672)	87 (146)
Bog and wet heath	273 (1,156)	80 (113)
Freshwater	224 (1,312)	71 (127)
Heathland	347 (1,335)	76 (121)
Marsh and fen	234 (815)	58 (90)
Upland grassland	147 (473)	43 (73)
Rock outcrops, cliffs and scree	73 (261)	21 (33)
Native pinewood and juniper scrub	52 (162)	10 (16)

Number of indicator species across habitats

Positive indicators: 109 species, 109 plots. Negative indicators: 109 species, 109 plots.

Most broad habitats were quite variable in the number of positive indicator species found in each plot, ranging from zero to 12 out of a maximum of 28. Arable margins rarely had more than four positive indicator species and, in comparison to habitats such as Bog and wet heath, and Native pinewood and juniper scrub, had a higher proportion of plots with fewer positive indicators present. Each NPMS broad habitat has a maximum of five negative indicator species, except for Native pinewood and juniper scrub (four) and one of the five habitats within the Coast broad habitat, Saltmarsh (one). There was little difference between NPMS broad habitats in the number of negative indicators found per plot, and many had none, for example over half of the plots recorded as Coast, Bog and Wet Heath and Freshwater.



Square release

This year, the NPMS undertook a radical release of previously allocated but inactive squares, and nationwide ~850 survey squares were released. These have started being taken up by new or existing volunteers looking for sites near them. We hope this will encourage a larger number of active volunteers to engage and contribute valuable data.

Journal of Applied Ecology

BRITISH ECOLOGICAL SOCIETY

RESEARCH ARTICLE | Open Access | CC BY

Assessing the exposure of UK habitats to 20th- and 21st-century climate change, and its representation in ecological monitoring schemes

Oliver J. Wilson, Oliver L. Pescott

The accumulation of NPMS plots across the UK, is an incredible resource for climate change research. New research published in the *Journal of Applied Ecology* attempts to quantify this for the first time. NPMS researchers at Plantlife, UKCEH and the University of York, use past observed and future modelled climate data to create an index of expected climate change in every 1 km square of the UK. The results show how far human-driven climate change has shifted conditions from their state at the beginning of the 20th Century - and how much more change could be in store over the coming decades. To read where human-driven climate change is likely to fall hardest you can read a summary in our [Blog](#) or read the full paper [here](#).



This spring, NPMS partner the Botanical Society of Britain & Ireland (BSBI) released the new, two-volume *Plant Atlas 2020*. Using over 30 million records of 3,445 species, it provides an incredible resource on the distribution of British and Irish flora. Find out more at bsbi.org.

We're delighted to introduce a new member of our support team, Karen Fisher who has joined the team as Volunteer Support Officer in May. Karen joins us with a wealth of experience supporting volunteers and has great ideas for expanding our volunteer community.

"I feel like I've landed my dream job. To celebrate I bought myself a copy of the Wildflower Key. Working with volunteers and looking closely at plants, for me, it doesn't get better than that." Read Karen's full introduction blog [Here](#).

GET INVOLVED



NPMS

Submit your data:

We ask surveyors to please submit your data for this season by the end of October to be included in the over winter analyses.

While we ask, if at all possible, to submit this season's data by 31st October, if you don't make it in time, it is still hugely valuable and can be entered after this date.



Previous season's data – it's not too late!

Do you have any passed survey forms, safely tucked away, but not entered? Historical data can still be entered any time to contribute to the NPMS database and analyses. For any advice on entering your data, contact support@npms.org.uk.

Verification of plant records: Guidance for NPMS surveyors

Biological recording has long involved some process of checking or verifying the correctness of an occurrence by the community or scheme interested in the records. There are several ways in which this is done within the NPMS and the first step on this journey is with you, the recorder!



To help with the verification process you can...

- ❖ **Ask for help if you are unsure of an ID.** NPMS staff are happy to check photos and there may be local botanists, who'd be happy to help.
- ❖ **Add photos to your records when possible.** Either via the NPMS website or smartphone app. Ensure that the images are in focus and provide close-ups of features that are important for ID such as leaves and flowers.
- ❖ **Include information in the comments about why you decided on a particular ID,** especially for records that are unusual or rare.
- ❖ **Check verifier comments/questions** on your records and edit records where required by visiting your "Verification messages" page on the NPMS website.

How are records verified?

We all make mistakes, whatever our level of expertise. The NPMS uses automatic checks based on the known range, identification difficulty and length of time since a species has been recorded previously, to flag records that could possibly contain errors. Ultimately, verification still relies on a human to make a judgement on whether a record is correct or not. This is carried out by expert botanists, with good knowledge of the flora of the area, county, or region from where the record originated. The NPMS uses the inbuilt verification interface of iRecord (as do many other recording websites), to enable botanical experts to access and verify your NPMS records.

Read more about how your records are verified in our recent [blog post](#).



For more detail about the NPMS verification process, and how it is implemented within the iRecord platform, you can read the full NPMS guidance on verification [here](#).

Experienced botanist? Confident in your species ID?

Please get in touch if you would like to volunteer to review species records, to discuss. We now have introductory training to iRecord and verification. Full support is given.



Have your say on the NPMS Website!

We want to maximise your website user experience. Please take 5mins to give us valuable feedback [HERE](#).



Could you be a Mentor?



Volunteer mentors are a hugely valued part of our team. There are several ways you can be involved, both in-field and desk-based, from survey methods to species ID. Full support is given. Please get in touch if you feel you can give some time.

GET INVOLVED

Further opportunities...

... and projects that may be of interest to NPMS volunteers.



The brilliant world of bryophytes!

As NPMS surveyors you will have no doubt come across lots of mosses and liverworts in your plots in amongst the vascular plant species you record and noted them as a % cover under the 'mosses/lichens' category. Working out the % cover can be tricky, particularly as plants layered on top of one another can add up to over 100%, and so where there are lots of mosses under the sward you may have found yourself looking quite closely and noticing the variety and beauty of mosses. **Would you like to learn more?**



As the vascular plant recording season begins to slow down, remember there is an incredible world of lower plants waiting to be discovered, and autumn is the perfect time to go out and start looking.

All images: Claire Halpin. Above: Mnium hornum, Left: Entosthodon muhlenbergii, Below Ulota bruchii.



The British Bryological Society (BBS) welcomes anyone interested in the study and conservation of mosses and liverworts. Whether you are a beginner, keen to improve or have been studying bryophytes for many years, the society aims to support you, with lots of local meetings and events, a referee service for members, a lively membership magazine and an extremely popular Field Guide to Mosses and Liverworts.



The BBS website is packed with information to help you [get started](#), including a [species finder](#) with lots of ID hints, beautiful images for each species and a helpful section on similar species, a [vice-county explorer](#) to find local information and your regional recorder (RR), and tips and techniques for microscope use for when you really get the bug!

You can contribute useful records straight away by [recording](#) as you learn, either by contacting your RR, or via the iRecord [app](#) or [website](#).

News from the UK Pollinator Monitoring Scheme



The UK Pollinator Monitoring Scheme (PoMS) continues to gather evidence on changes in insects populations, and the [annual report](#) published this year gives survey updates, the first views of results since PoMS started, reports from volunteers and partner organisations, interesting species highlights, plants for pollinators and more.



Chrysotoxum festivum: Martin Harvey

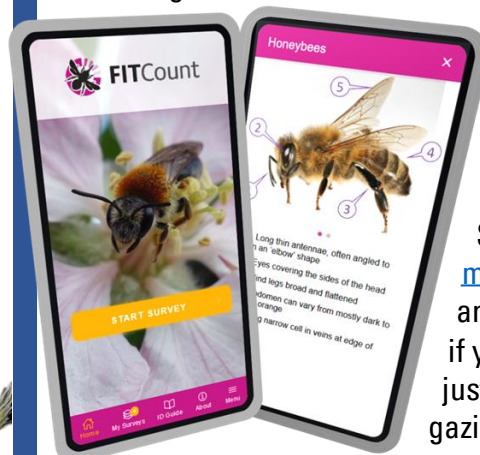


Andrena tibialis: Martin Harvey

One way to get involved is by carrying out [FIT Counts](#) (Flower-Insect Timed Counts), which are a simple survey designed to gather information on the overall abundance of broad groups of insects (bumblebees, hoverflies etc.) visiting flowers. This survey is accessible to everyone, is a great way to start a conversation about insects within local groups and can be beneficial to your mental wellbeing.

FIT counts can be done up till the end of September or download the app [here](#) ready for next season.

Sign up to the [PoMS mailing list](#) to find out more and read [this article](#) to see if you might like to spend a just few more minutes gazing at flowers than usual!



GET INVOLVED

Further opportunities...

... cont.

Learn more about our wonderful wildflowers with the BSBI

If you've already devoured all the Amazing NPMS online [training resources](#) and [webinars](#) and you're hungry for more, check out these options from the BSBI:

- ❖ Helpful tips for [getting started](#) with plant ID.
- ❖ Short [plant ID videos](#) and longer [training webinars](#) on the [BSBI YouTube channel](#).
- ❖ Plant ID resources for both [beginner](#) and [more experienced botanists](#).
- ❖ Botanical [training courses](#) running next year - from short courses by providers across Britain and Ireland to Identiplant, the online ID course.
- ❖ Did you know that you can apply for a grant of up to £250 to help you take a training course? Grant applications go live [here](#) on 1st January so be ready to apply and don't forget to say on your application that you are an PMS surveyor.



Botanical society field meeting. Image: Louise Marsh

Exciting job opportunity!

Could you help us nurture and develop botanical skills across Northern Ireland and grow participation in the National Plant Monitoring Scheme? The BSBI is recruiting for a Botanical Skills Officer - details and application forms are [here](#). If you think you have the skillset for this exciting new post, please apply before the deadline of midnight on Sunday 27th August.

Meet up with fellow plant-hunters

All NPMS surveyors are invited to attend BSBI's autumn conferences. The [Scottish Botanists' Conference](#) takes place on Saturday, 4th November at RBG Edinburgh; there is a small charge for that event.

The [British & Irish Botanical Conference](#), taking place in Newcastle on Saturday 2nd December, is absolutely free. You'll be made very welcome and the conferences are a great way to pick up ID tips, hear fascinating talks about our wonderful wildflowers and meet fellow plant hunters.



British & Irish Botanical Conference 2022, Louise Marsh

Getting to know our sand dunes

[Dynamic Dunescapes](#) is a partnership project, that has been working to restore sand dunes across England and Wales for the benefit of wildlife, people and communities.

There are many ways that you can learn about sand dunes and get involved with sand dune conservation and restoration. Visit the project webpage to view:

- ❖ [About sand dunes](#)
 - Sats and facts
 - Lifecycle
 - Wildlife
- ❖ [Upcoming events](#)
- ❖ [Volunteers](#)
- ❖ [Citizen Science](#)



Dynamic Dunescapes/ Ian J Lee Photography



@dynamicdunes

#WaxcapWatch

This autumn Plantlife will again be seeking volunteers' help to find new grasslands important for fungi such as colourful waxcaps, by recording them on our WaxCap app. You don't need any experience, or to be able to identify species – just their colours. The information will help us identify places that may be important for these under-recorded species. More information about our work with waxcaps and how to use the App will be available on our website soon. Image: Pink Waxcap, *Porpolomopsis calyptiformis*.



Lizzie Wilberforce



Botany through art

We received such a positive response following our previous botanical art feature, alongside our botanical sketches workshop earlier this year. Indeed, feedback suggests the session presented a welcome opportunity to slow down and revisit long since abandoned skills or indeed inspired others to take up a new pastime. It would be great to be able to dedicate more time to this activity.



It was a delight to see the resulting portrayals shared by attendees of the workshop.



Judy Walters




Sarah Dann





Cass Barret


Hedera helix
Magnifying in flower


Handy tips for those tempted to take up the challenge and try their hand at botanical art:

 While illustrating flora from images can be enjoyable and helpful in starting to familiarise yourself with a species, you can't beat working from life, as you can pick up details about the plant subject that can be difficult to observe from a static photo.

 Observation is key; take the time to get to know your subject. Use a magnifying glass to bring smaller areas into focus; why not do individual studies of interesting features of the plants?

 If collecting specimens try sourcing them in the morning or evening, as they will not be affected by the heat of the day, and as such will be more resilient to being placed in water and kept for longer.

 If you're travelling a distance with specimens, try storing them in a container on dampened tissue with another layer of damp tissue on top. Or try a sandwich bag that has been sprinkled with water and put your cuttings into water as soon as possible.

 The drawing process can be a long one, try to draw the parts of the plant that will wilt first, if needed you can pop a specimen in a container in the fridge overnight, although be aware flowers may bloom in that time!



Meet: Lisa Gardner
Plantlife's artist in residence
www.irishhill.co.uk
Instagram: @irishill

A watercolour artist inspired by the natural world, the connection between breath and brushwork and the utter joy found when paint meets canvas. Lisa crafts whimsical artwork under the name Iris Hill – a tribute to her Nan.

Do look out for an upcoming botanical watercolour and breathe work workshop with Lisa coming up in our NPMS winter mini-series.



Remember: It's not usually an offence to pick the 'Four Fs' - fruit, foliage, fungi or flowers – if the plants are wild and it's for your personal use. But rare or endangered plants are protected under the 1981 Wildlife and Countryside Act, so picking these is against the law. Only pick from wild locations and not council or protected land. Picking a flower is one thing. Uprooting it entirely is another. The law strictly prohibits removing an entire plant from the wild.



Field Diaries: Your pics

Some great images that have been shared with us so far this season. We love to receive your photos from out in the field, whether to help with ID, or simply to share a fun find, activity or moment of reflection.



Earlier this year, James Harding-Morris, BSBI, tried out tips picked up at Leif Bersweden's NPMS **Botanical photography Webinar**, to snap



a lovely clump of *Galanthus nivalis*. snowdrops Including this 'Flore Pleno'. "A mutant, bowing under the weight of dozens of extraneous petals."

"A great few days in the glorious sunshine!" - North Devon coast AONB, Finding Nature's Footprint project share a fantastic couple of days at Gallantry Bower, carrying out their NPMS survey.



They were joined by Hartland Nature Society and Higher Education Petroc students who helped collect the data on these new survey plots. Images: Lowenna Arnold



Heating up! NPMS volunteer Andy Nisbet has enjoyed a "Lovely (if hot)" time surveying his plots at the National Trust's Killerton estate, Devon. Including a mix of woodland edge, riparian, wet grassland and hedgerow sites.

THANK YOU

A huge thank you to the dedicated volunteers that make the scheme possible. We are so grateful for your enthusiasm and efforts.

We would like to thank the stakeholders who support and promote the scheme.

Thanks to Andrew van Breda, Biren Rathod and Karolis Kazlauskis for technical support, along with our incredibly knowledgeable trainers for their contributions this season.

Thank you to all the contributors to this newsletter.



We are here to help. Send us an email or give us a bell. support@npms.org.uk 07711 922098



Rachel Murphy

Don't forget to tag us in your social media plant or plot photos! We'd love to share what you see with the whole NPMS community! #NPMS @theNPMS

