Progress with the Fenland Flora in 2017

Owen Mountford and Jonathan Graham

Stepping up a gear – botanising and data gathering in 2017

Writing now at the end of April 2018, we are already well into the new surveying season, which should be the last major phase of data-gathering for the *Fenland Flora* project. We will take stock in the autumn, but in 2018 we plan to survey all tetrads with fewer than 125 species recorded. In addition we will be looking for Fenland specialities in sites where they have not been recorded since 2000. In spring 2017, Paul Kirby (aided by Charlie Barnes at LERC) transferred to us all his data for the North Lincolnshire part of Fenland. Overnight, as it were, the project coverage for the Fenland north of the Witham became amongst the richest that we have – very many thanks to Paul and Charlie! These data-transfers from BSBI recorders are now complete for all Fenland vice-counties except west Norfolk and give our project not only more comprehensive coverage for the period since 2000 but also a historical context. We plan to transfer data held in the national BSBI database and by the UK Biological Records Centre (at CEH Wallingford) at the end of 2018 in order to complete our Fenland database, ready for map-production and writing the flora.

Once again, we acknowledge with pleasure the data-inputs we've received from other botanists. As the years have gone by, we have received data from an increasing number of local naturalists. Thus, in 2017, our thanks go to botanists from Horncastle to Cambridge. Robin Stevenson again focussed on the strip of Fenland along the east shore of the Wash north of King's Lynn, and has essentially completed our coverage of that area. Jeremy Fraser took on two areas of the northern Fenland, near Boston and in the Witham fens, making some very interesting discoveries. Kerry Harrison's work has meant that the hot-spot of Baston and Thurlby Fens has really up-to-date coverage. Tim Inskipp had already provided us with detailed data for the Ouse Washes and in 2017 his work on the Ely Wild-space further improved our knowledge of this diverse part of Fenland. Jeremy Halls visited parts of the central Fenland of Lincolnshire from Baston to Boston. Pete Stroh returned to his doctoral study-areas and proved that even Wicken Fen can have previously unrecorded and uncommon species.

All the BSBI vice-county recorders have continued to provide vital information on their part of Fenland. Jonathan Shanklin was hyper-efficient in getting data to us, not only from vc 29 but also further afield in Fenland. Sarah Lambert started 2017 off with a bang, finding a superb ditch near Crowland as early as 9th January. Fenland is generally not rich in the major critical groups such as dandelions, hawkweeds and brambles, but Alan Leslie gave us all his records for *Rubus* species in the Cambridgeshire Fenland, which will make our account of this group much more respectable! Fewer county flora group meetings took place in Fenland during 2017, but those by the Cambridgeshire Flora Group (CFG) turned up some fascinating records and we thank the organisers of all these meetings for making their data available to us: Richard Carter, Bob Ellis, Alyson Freeman, Sarah Lambert, Alan Leslie, Jo Parmenter and Jonathan Shanklin.

For one of us (Owen), 2017 was a momentous year as it was the first year of my retirement, meaning that to all intents and purposes, I ceased to be a professional plant ecologist and became instead a full-time Fenland surveyor. This enabled me to do a great deal of "tetrad-bashing". If ever my energy flagged, I was sustained by occasional joint trips with other botanists, making surveys altogether more social and less like work. In addition to Jon and the CFG, my thanks go to Jeremy Fraser, Amanda

Jenkins, Bill Meek, Oli Pescott, Jodey Peyton, Robin Stevenson, Pete Stroh and Robin Walters (the last not a botanist but blessed with sharp eyes and patience!).

The Fenland boundary – the Cut-off Channel at Lakenheath © Owen Mountford (2017)

Fenland botanical highlights from 2017

As in 2016, it is probably simplest to describe the high points of the 2017 botanical year in terms of the habitats and parts of Fenland that were visited. This account is therefore broken down as follows: a) semi-natural fragments and nature reserves; b) grasslands (wash-lands, flood-banks, churchyards and road verges); c) hedges and woodlands; d) drainage channels large and small; e) the coastal fringe; and f) arable land and headlands. In addition, although garden escapes are a common feature near houses throughout Fenland, several non-native species are becoming part of the rural vegetation and merit special attention.

Nature Reserves and SSSIs

Despite being thinner on the ground than in the surrounding "uplands", the protected areas of Fenland are numerous and varied, ranging from National Nature Reserves like Wicken Fen to local initiatives such as the Bell Mere Pool nature centre at Sutterton. Obviously, these sites tend to be relatively very well recorded, but even here interesting finds can be made. Kerry Harrison continued his rigorous work on Baston Fen and Thurlby Fen Slipe, finding the Small-fruited Yellow-sedge (*Carex*

oederi) and Bristle Club-rush (*Isolepis setacea*), as well as confirming Neil Harris's record of the Whorl-grass (*Catabrosa aquatica*). Fred Rumsey, Pete Stroh and Jon made a visit to Holme Fen NNR to look closely at the ferns, making a first Huntingdonshire record for the hybrid buckler-fern (*Dryopteris x deweveri*). One of the parents (*D. carthusiana*) was discovered by Jonathan Shanklin at the Lattersey Wildlife Trust reserve, Whittlesey – nearly 50 years after Owen recorded it at "Yardy's Pits" on the other side of the town.

Narrow Buckler-fern (*Dryopteris carthusiana*) at Holme Fen NNR © Owen Mountford (2017)

Since the early 1990s, habitat restoration and creation schemes have become an exciting feature of biodiversity protection in Fenland. Among the habitats created are pools and dykes with deep water and in such a place on the Lakenheath Fen RSPB reserve, Norman Sills found a huge population of Soft Hornwort (*Ceratophyllum submersum*), the first West Suffolk record for nearly half a century. Not content with this, and now with his eye in, Norman made another new Fenland record of the same species on the Wissey Wetland Creation site near Hilgay. Disturbed ground associated with habitat creation and management can sometimes provide new opportunities for uncommon species on renowned reserves such as Wicken Fen. Thus Pete Stroh found Rye Brome (*Bromus secalinus*) on Baker's Fen – it has only very rarely been found off the clay and chalk in our region – as well as Nettle-leaved Goosefoot (*Chenopodium murale*) on the banks of Wicken Lode in only the 5th record for Cambridgeshire since 2000. A much smaller habitat restoration scheme is at Hagnaby Lock near the northern edge of Fenland. Here Jon noted a patch of Early Marsh-orchid (*Dactylorhiza i. incarnata*) in wet grassland in what is one of only three recent sites away from the coast in North Lincolnshire and the only one in Fenland.

The botanical delights of the Breckland may overshadow the value of some of the peaty wetlands along its boundary with the Fenland *e.g.* Lakenheath Poor's Fen and Pashford Poors Fen. Numerous Suffolk botanists have visited these sites over the years and their flora contains numerous species that are otherwise largely confined to the big NNRs. In the summer of 2017, we visited these fens ourselves finding the riches of Pashford essentially intact but Lakenheath Poor's Fen showing signs of over-grazing meaning that the continued presence of some species was very difficult to ascertain, though the lovely Knotted Pearlwort (*Sagina nodosa*) was possibly favoured by the management regime.

Lakenheath Poor's Fen with abundant Creeping Willow (*Salix repens*) and ragwort invading the intensely grazed portions © Owen Mountford (2017)

Other notable records for protected areas in 2017 include: a) Round-fruited Rush (*Juncus compressus*) at Roswell Pits [CFG with Tim Inskipp]; b) Lesser Water-plantain (*Baldellia ranunculoides*) and Orange Foxtail (*Alopecurus aequalis*) on Quy Fen [Alan Leslie, Jonathan Shanklin and Jon Graham]; c) Nodding Bur-marigold (*Bidens cernua*) on the Isleham Washes [Jonathan Shanklin updating Nigel Cooper's 2006 record]; and d) Woolly Thistle (*Cirsium eriophorum*) survives in rough grassland in the Eye Green Nature Reserve, in what is possibly the only extant site for this calcicolous grassland species in Fenland – Annette Faulkner found it at Surfleet Lows in 1993. A very interesting part of our study area is the Fenland edge at Soham where a number of protected old grassland commons occur on the Fenland/ upland boundary. Although these have been well-studied over the years, they still turn up surprises. Jon and Chris Preston had found *Taraxacum palustre* in 2016 and in 2017 a CFG visit found not only *Carex oederi* in its only Cambridgeshire site away from Wicken, but also a remarkable non-native small reedmace, *Typha minima*, in only its 6th UK record and the first away from the Home Counties.

***Typha minima* established on a common near Soham © Owen Mountford (2017)**

Grasslands in Fenland

Semi-natural and species-rich grasslands are uncommon in Fenland. Many of the road verges and watercourse banks are under-managed, over-fertile and coarse, whilst the scattering of pastures that remain have frequently been treated with herbicides to remove their broad-leaved herbs. However, exceptions to this generalisation are happily quite frequent. The Soham commons and the washlands already mentioned are among these valuable grasslands, but other less protected sites are important. Botanising in 2017 confirmed that other Fenland-edge grasslands like Middle Fen at Swavesey still have richer wet swards with uncommon plants such as *Juncus compressus*, Tubular Water-dropwort (*Oenanthe fistulosa*) and Great Burnet (*Sanguisorba officinalis*). Also toward the edge of Fenland, Jeremy Fraser and Owen found a few very fine small meadows and horse-pastures near Little Steeping and Toynton Fen Side, with large populations of Adder's-tongue (*Ophioglossum vulgatum*).

Forb-rich grassland on the sea-bank near The Horseshoe, Wrangle © Owen Mountford (2017)

We continued to find interesting grassland species on the swards associated with both sea-banks and the floodbanks of rivers and drains. Many of these grasslands are quite old by Fenland standards, but in any event are less likely to receive agrochemicals, though some are neglected and thus dominated by coarse grasses. Although Crosswort (*Cruciata laevipes*) is mainly an upland edge plant, it penetrates to the heart of Fenland on drain banks like those of the South Forty Foot. Narrow-leaved Birdsfoot-trefoil (*Lotus tenuis*) turned up near the huge St German's pumping station and close to the Welland outfall on a low sea-bank. Where the mowing regime was suitable and the sward more open, an apparently ordinary drain-bank between Rampton and Cottenham supported both Fiddle Dock (*Rumex pulcher*) and Corn Parsley (*Petroselinum segetum*), this last species being something of a speciality of old floodbanks in Fenland.

In the early days of the Fenland Flora project, we visited a great many churchyards since these often represent the oldest grassland in a parish. In 2017, we continued to pay attention to such habitats, often finding that the mosaic of mown swards and shade provided habitats for uncommon species, some of woodland such as Three-veined sandwort (*Moehringia trinervia*) at New Bolingbroke and others of a wide range of semi-natural habitats, like the Twayblade (*Neottia ovata*) found by Jeremy Halls at Langrick.

During our tetrad surveys, we usually have to confine our attention to public rights of way, meaning that a great deal of time is spent trudging along rural roads. In general, the verges of minor roads that are frequently cut have the richest flora, especially where the route is older. However, past surveys by Lewis Saunders and ourselves have shown that the broad verges of the newly-established Fenland highways (new routes of the A16, A17, A47, A141 and A151) often have a more diverse grassland flora.

This richness may result partly from sowing but also via imported soil or construction materials and the more frequent cutting regimes required on major roads. The A17 in southeast Lincolnshire proved especially interesting in 2017. We found Great Horsetail (*Equisetum telmateia*) on ditch banks here in its only South Lincolnshire Fenland site – first found here by Brian Hedley in 1999. Two species made major extensions in their range: Greater Burnet-saxifrage (*Pimpinella major*) reaching Saracen's Head and Wild Marjoram (*Origanum vulgare*) getting to Long Sutton. Bushy verges at Gedney supported a fine population of Pyramidal Orchid (*Anacamptis pyramidalis*). These modern trunk-road verges often have amenity planting with shrubs, many of which are non-native strains of familiar species like dogwood and Viburnums. However, Creeping Willow (*Salix repens*) made an unexpected sighting on a verge at Weston, near Spalding.

Species-rich grass verge of the A17 with Pyramidal Orchid (*Anacamptis pyramidalis*) at Gedney © Owen Mountford (2017)

A different verge habitat is present along the rail network and, at the start of his career at Monks Wood, Owen spent a lot of time walking along active railway lines. These days access to railways is much more difficult and the best "ferroviatic" sites in Fenland are abandoned marshalling yards and sidings such as Whitemoor (March) and near Whittlesey Station. Work by Terry Wells and, in 2015-16, by Sarah Lambert showed that the Conington Dump supported a remarkable flora, with chalk grassland plants being especially well represented. The dump is very close to the Fenland edge and was created from World War 2 rubble *etc* that was deposited immediately by the East Coast Main Line. One of the dump species is Common Broomrape (*Orobanche minor*), which was also recorded in 2017 by Brian Milne on the west side of railway here, suggesting that Conington Dump might be a source of propagules for the spread of species.

Hedges and woodlands

Hedges apparently play an increasing role in the Fenland landscape, with significant new mixed plantings over recent decades. Similarly, concerns about wind erosion and protection of more tender crops has led to planting of shelter-belts of poplars and alders (notably *Alnus cordata* and *A. incana*) in some parts of Fenland. True woodlands remain rare, and the vast majority are planted in origin. Locally, more natural wet woodland has developed, especially in the floodplains of the rivers entering Fenland from East Anglia. *Urtica dioica subsp. galeopsifolia* was found in Suffolk under alder and sallow carr; the "Fen Nettle" was also recorded in shade at Roswell Pits and probably remains under-recorded in the region. Within the treed fringe of the rivers Lark and Little Ouse, the mainly northern Bay Willow (*Salix pentandra*) is occasionally seen and occurs in similar sites by the Slea.

Bay Willow (*Salix pentandra*) by the Lark below Mildenhall © Owen Mountford (2017)

Distinctive woodlands occur on deep peats between Wainfleet and Stickney, many of which were planted around duck decoys and are well over a century old, in some cases dating back to the late 17th century. Their ground flora is rich in bryophytes and ferns, and the Climbing Corydalis (*Ceratocapnos claviculata*) can be common. Several such woodlands were surveyed by Jon and Owen in May 2017, and found to contain old woodland species. Following discussion with the landowners, it may be that some of these owe their occurrence to bulb cultivation in the 1920a *e.g.* Ramsons (*Allium ursinum*), Few-flowered Leek (*A. paradoxum*) and Bluebell (*Hyacinthoides non-scripta*). Others may have reached these old plantations under their own steam *e.g.* Wood Speedwell (*Veronica montana*).

Woodland species of the Wainfleet All Saints fens. Left: Few-flowered Leek (*Allium paradoxum*); and Right: Wood Speedwell (*Veronica montana*) © Owen Mountford (2017)

Drainage channels and rivers

The drainage network of Fenland, both natural and artificial, probably represents our most important landscape feature supporting uncommon native plant species. The flora associated with drains and rivers includes aquatic species (submerged, floating and emergent) and also wetland plants either growing near the water's edge or on marshy places at the foot of flood-banks.

In 2017, more data supported the contention that several aquatic plants that are threatened or uncommon nationally have strong Fenland populations. Thus Whorled Water-milfoil (*Myriophyllum verticillatum*) is often common in all sorts of drains, including some rather murky examples! Although still apparently commonest in the western Fenland from Peterborough northward, both *Baldellia ranunculoides* and Opposite-leaved Pondweed (*Groenlandia densa*) were found in new sites in 2017, with *G. densa* notably common in narrow clear ditches in Wildmore, North Lincolnshire. Narrow-leaved Pondweeds, including *Potamogeton berchtoldii, P. friesii, P. pusillus* and *P. trichoides*, have been shown to be very widespread and locally common in Fenland ditches, and further new sites were discovered in 2017 for the Grass-wrack Pondweed (*P. compressus*) *e.g.* in Bevill's Leam. Although broad-leaved pondweeds remain rarer and often confined to larger IDB drains, new sites were discovered for *P. praelongus*, again in Bevill's Leam, and the fen speciality *Potamogeton coloratus*, found by Sarah Lambert and Pete Kirby near Crowland. The Long-leaved Pondweed (*P. x angustifolius*) has long been known in the Whittlesey area, and Jon's surveys in 2017 showed it to be locally abundant in Underwoods Grounds. These same ditches had much Floating Club-rush (*Eleogiton*

fluitans), further supporting TL29 as a stronghold for this species of nutrient-poor, often acid water. Owen also found *Eleogiton* growing by the Branston Causeway in a part of Lincolnshire where it had last been seen by Joan Gibbons in the 1950s and 1960s. Possibly the most important find of a native plant in a Fenland ditch in 2017 was made as early as the second week of January, in the same site as the *Potamogeton coloratus* mentioned above and more *Groenlandia*, Sarah and Pete found an extensive population of Clustered Stonewort (*Tolypella glomerata*), which is not only Nationally Scarce but also just the second post-2000 record for South Lincolnshire.

Long-leaved Pondweed (*P. x angustifolius*) filling a clear ditch in the Underwoods Grounds area, Whittlesey © Jonathan Graham (2017)

All these records for aquatic plants may be considered good news, but some of our recording reveals more concerning trends. The Floating Pennywort (*Hydrocotyle ranunculoides*) has become well-established in the Cam and its tributaries since 2000. This invasive alien species is also known in Cambridgeshire from the Lark and from the Great Ouse as far downstream as Little Thetford. Possibly not surprisingly, Owen and Robin Walters found it by both banks of the Great Ouse at Southery in what appears to be the first vice-county record for West Norfolk. More worryingly, Owen also found it in the small and winding Kirton Drain of South Lincolnshire – another new vice-county record and a long way from other known populations. The Environment Agency were notified in the hope that control measures could be successfully implemented.

The banks of watercourses provided yet more interest during the 2017 field campaign. Sometimes demanding wetland plants grew right by the water's edge of apparently ordinary roadside ditches *e.g.* Marsh Arrowgrass (*Triglochin palustris*) north of Thorney. The South Lincolnshire bank of the Witham, downstream of Chapel Hill had scattered plants of Small-flowered Winter-cress (*Barbarea stricta*), growing where cattle had trampled the river's edge. This was just the 4th site for this rare long-established alien in South Lincolnshire and the only one from Fenland. All its extant North Lincolnshire

sites are by or near the Trent, though Joan Gibbons did find it near Dogdyke in 1975, less than 3 km from our 2017 record. Focussing on the northern Fenland, Jeremy Fraser made some exciting records in the wetlands that sometimes develop on flat ground between the drain floodbanks and the soak ditch or fence. Working with Owen along the Steeping River (and thus at the very edge of Fenland as we define it), he found Bog Stitchwort (*Stellaria alsine*), a species whose preference for open, often cattle-poached places on wet acid soils leaves it with few if any opportunities in Fenland. Probably the overall record of the year, however, was Common Cotton-grass (*Eriophorum angustifolium*), found by Jeremy recording with Caroline Steel in wet grassland near the Nocton Delph. "Common" may be a merited name in the moors of the north and west but in the agricultural south and east of England, this is now a decidedly rare species, with only one other recent Fenland site, near Hilgay in Norfolk.

The coastal fringe

Thanks to several commissioned surveys of the Wash saltmarshes, some performed by Jon, we have a fairly good idea of the halophytic flora of the Fenland coast. Some of the observations discussed in the grassland section (*e.g. Lotus tenuis*) could be described as coastal, occurring as they do on grazed sea-banks immediately adjacent to the tidal marsh. In September 20107, Jon and Owen studied the extent of Slender Hare's-ear (*Bupleurum* tenuissimum) at its known location on the RSPB Frampton Marsh reserve. Once we had "calibrated our search image" for this rather insignificant plant, we made a population estimate of maybe as much as 10,000 individuals!

Possible Saltmarsh Goosefoot (*Chenopodium chenopodioides*) from Moulton Marsh © Owen Mountford (2017)

Many of the tetrads in the most recently reclaimed land by the south and west shores of the Wash have low recorded species totals despite intensive survey. Nonetheless, newly created habitats in this region have gained more discriminating species such as Distant Sedge (*Carex distans*) in a reedy marsh

between the sea-wall and soak dyke north of Holbeach St Marks. In 2016, we reported a possible sighting of the Saltmarsh Goosefoot (*Chenopodium chenopodioides*) from Havenside near Boston (vc 54). Material sent to John Akeroyd proved inconclusive, though possibly this species. A year later, Oli Pescott, Jodey Peyton and Owen found precisely the same plant on Moulton Marsh – a photograph is given above. This vc 53 site is within a few hundred metres of the only other records for South Lincolnshire: by Richard Fitter in 1959 and Joan Gibbons in 1981. The case remains not proven!

Arable land

In contrast to the other habitats described here, arable fields produced rather little new in 2017. Cockspur (*Echinochloa crus-galli*) and Indehiscent Amaranth (*Amaranthus bouchonii*) may now be considered frequent plants, especially on fertile peaty soils in the Fenland of Norfolk, Suffolk and east Cambridgeshire. The Common Ramping-fumitory (*Fumaria muralis subsp. boraei*) continues its expansion in Fenland, with Jonathan Shanklin finding several new sites in Cambridgeshire (**TF40** and **TL38**), whilst Owen found it common along the headland of a beet field 3 km north of Sutton Bridge – this was only the second record for the South Lincolnshire Fenland, though we can be fairly sure there will soon be more. Awned Canary-grass (*Phalaris paradoxa*) turned up in two cereal field headlands on Martin Fen and may, like other canary-grasses, be a relic of sown strips of bird-seed mixtures – though these seem to be the only post-2000 records for South Lincolnshire.

Ruderal habitats and alien species

It could be argued, very much tongue-in-cheek, that the best prescription to achieve a rich flora in the Fenland would be to build over the whole landscape! Tetrads with the highest species totals are almost always in and around towns and large villages, such as Wisbech, Whittlesey, Gedney and Long Sutton. To some extent, urban areas do provide opportunities for native flora in the mown grasslands, the shaded parts of churchyards, old stone- and brickwork and the open sand, gravel, cinder and ballast of gardens, waste ground, railways and industrial sites. There are, however, almost no habitats for the most distinctive Fenland species, those of water and wetland, within the built-up parts of our region – except where abandoned brick and gravel pits occur. In addition, the high totals for urban and ruderal habitats are often greatly inflated by garden escapes and other alien species.

Some ruderal taxa may require expert identification, especially if they are non-native or of garden origin. Others are natural hybrids that can look very odd. Thanks to Oli Pescott's sharp eyes, we sent a peculiar willowherb from an open roadside ditch-bank shaded by Leylandii on Moulton Marsh to Geoffrey Kitchener. Almost by return, Geoffrey identified it as the hybrid of *Epilobium parviflorum* and the established alien *E. ciliatum i.e. E. x floridulum*. This was the first record for Lincolnshire as a whole, but we are fairly sure that there are numerous willowherb hybrids out there in Fenland ready to deceive and confuse the unwary. Even the "good" native species like *E. roseum* are under-recorded, though the Flora surveys have found a scattering of sites in 2017, several as new hectad records.

Sometimes species are deliberately introduced and we have made a policy of recording trees and shrubs planted on roadsides and in churchyards, but not those in gardens. Among the most attractive trees noted in 2017 were two fine Lucombe Oaks (*Quercus x crenata*) in the churchyard at Clenchwarton. This tree had only previously been noted at one site in West Norfolk (off the Fenland) but attention to planted trees is likely to have been patchy at best.

Church walls, both of the building itself and surrounding the churchyard, are a major habitat for ferns and these can be very persistent, assuming the churchwarden or PCC do not worship "tidiness". Thus

we confirmed the survival of House Holly-fern (*Cyrtomium falcatum*) at St Mary's, Weston for at least four years, as well as various spleenworts (*Asplenium* species) at many sites over longer periods. Old walls are otherwise quite infrequent in Fenland but we found Fairy Foxglove (*Erinus alpinus*) in good numbers on shaded brickwork at Clenchwarton at only its third West Norfolk site.

Other persistent alien species included Tarragon (*Artemisia dracunculus*) surviving on a very rural roadside on Quadring Fen over at least seven years. The case of Glabrous Rupturewort (*Herniaria glabra*) at Blackhorse Drove is interesting as this is accepted as a native species a few miles eastward. However, this site, noted originally by Alan Leslie in 2008 and refound by Jonathan Shanklin in 2017 is on a wall top and its status is therefore questionable, although natural spread cannot be dismissed.

The tall herbaceous border of gardens has contributed species even to rural road verges and disturbed sites well away from villages. Elecampane (*Inula helenium*) turned up on a shaded verge in Moulton West Fen and on the raised bank of the Well Creek near Nordelph – the latter is only the second West Norfolk record since the Second World War. Orange Mullein (*Verbascum phlomoides*) is again probably under-recorded or passed over for an "odd *V. thapsus*" but Jonathan Shanklin found it well out in the Somersham High North Fen in 2017 (the 6th record for Huntingdonshire) whilst Owen noted it in the more prosaic habitat of a rubbish dump near Lakenheath (the first West Suffolk record since 2000, though known at Maidscross Hill as recently as 1988). Catmint (*Nepeta cataria*) has a much longer history in Britain as an archaeophyte of waysides and rough grassland on calcareous soils. As such, we have recorded *Nepeta* in a few places in Fenland immediately west of the Cutoff Channel, whose retaining banks are made of chalk. However, Owen's record for the headland of an arable field at Stowgate probably reflects a garden escape and the field did lie immediately between farmsteads.

There is no doubt that some neophyte weeds and other aliens of ruderal habitats are spreading rapidly in Fenland. The case of White Wall-rocket (*Diplotaxis erucoides*) has been discussed before, and other now widespread species include Guernsey Fleabane (*Conyza bonariensis*) in dry open waste ground and by kerbs, as well as Water Bent (*Polypogon viridis*) at the base of walls and on ditch banks in villages (and rarely on gravelly waysides in the open Fenland). Narrow-leaved Ragwort (*Senecio inaequidens*) is not far behind these species, being already well scattered in Cambridgeshire. Our 2017 surveys produced the second, third and fourth sites for this distinctive composite in South Lincolnshire, growing on waste ground and bridges both well away from towns but also in Boston. First discovered in West Suffolk off-Fenland by Graham Easy on RAF Lakenheath, we found it on waste ground on Wangford Fen and by a dump on the way to Pashford Poors Fen (possibly the 6th and 7th vice-county records). Finally in West Norfolk, Lewis Saunders and Owen had noted *S. inaequidens* on the very boundary of Fenland at Watlington Station in 2014, but Owen's record for the edge of a farmyard on Upwell Fen south of Nordelph in 2017 is Fenland through and through. Among these expanding ruderal species we could include Early Meadow-grass (*Poa infirma*) but this is a native plant with a Mediterranean-Atlantic distribution. It is easily overlooked after April but may well be widespread on open shortly-mown grass verges. It has certainly spread as far north as Wigtoft, where Sarah Lambert discovered it last April – a second record for South Lincolnshire following her record made with Pete Kirby at Cowbit in 2015.

It is obviously rather easier to make new vice-county records for alien species than for plants of the native flora. In 2017, the *Fenland Flora* surveys turned up a number of other non-native species that were previously almost unknown for particular vice-counties: a) California Brome (*Ceratochloa carinata*) on an unkempt bank by the main road in Swineshead was the second record for South Lincolnshire (the first record in 2015 at Long Sutton also came from our surveying); b) Broussa Mullein (*Verbascum bombyciferum*) on a droveside near Pashford Poors Fen was the first sighting anywhere in Suffolk; c) the "Mount Olympus St-John's-wort" (*Hypericum olympicum*) was found for the first time in West Norfolk (but the second time in Fenland) on the kerb of a bridge over the A47 near Walpole

Highway; and d) Harpur-Crewe's Leopard's-bane (*Doronicum x excelsum*) was well-established and decorative under the avenue of trees through Carrington (the second record for North Lincolnshire). The delicate *Pratia pedunculata* resembles a tiny lobelia and survives well in slightly shaded closely mown grassland such as lawns and village road verges – a habitat beloved of other aliens such as *Oxalis exilis, Pilosella aurantiaca* and *Potentilla indica*. *Fenland Flora* surveys produced the first record for South Lincolnshire in 2014 at Weston Hills, and the 2017 surveys led to the second vice-county record at Gedney Dyke.

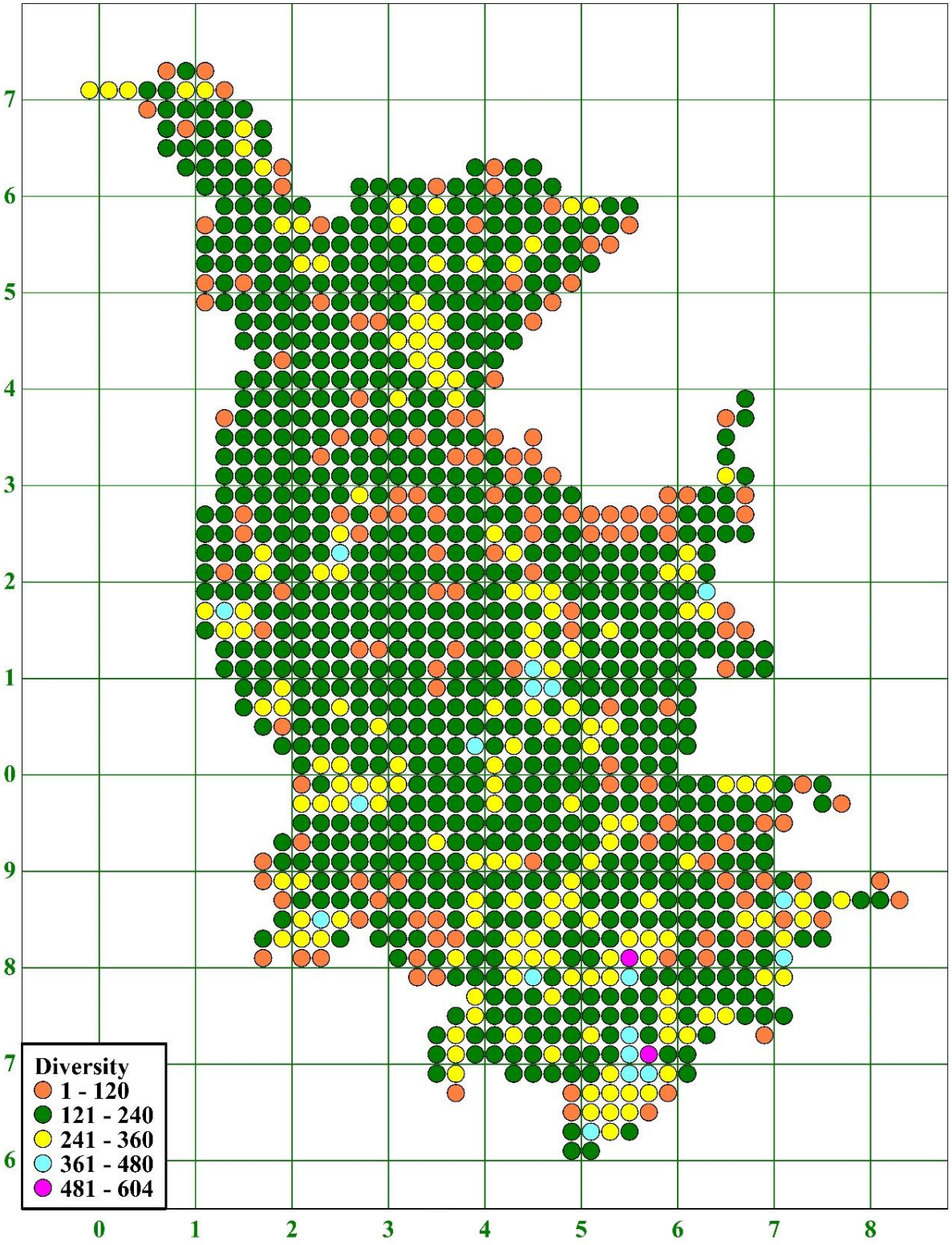
***Pratia pedunculata* on a mown and shaded grass verge at Gedney Dyke © Owen Mountford (2017)**

Bryophytes

The open fens continue to be poorly recorded for bryophytes particularly within Lincolnshire where "zero tetrads" still occur. Fenland habitats generally have low species totals and surveying arable or ruderal habitats can be quite challenging. Traditionally these factors have tended to deter bryologists. However, Jon and Chris made a number of good finds during a small number of winter excursions as part of preparing a fenland checklist. These included *Tortula lanceola* from Gosberton cemetery (apparently only the second post-1970 record in this vc 53 locality), *Rhynchostegium megapolitana* on a grass road verge, A17 junction NW of Swineshead (2nd vc 53 fenland record) and *Homalia trichomanes*, *Thamnobryum alopecurum* and *Orthotrichum striatum* surprisingly new to Wicken Fen.

Fenland Flora coverage at the beginning of the 2018 botanising season
Numbers of species recorded since 2000

Note that these totals only reflect records already incorporated within our database, and that totals for West Norfolk will increase as BSBI data are transferred.



What should we do and where should we go in 2018?

If 2018 is to be the last year of intensive survey, our efforts will be increasingly focussed, though clearly similar to those we've stated in the last few years:

- With the exception of some coastal tetrads, and those at the landward edge (where only a fragment of Fenland is present), we believe that it should be possible to find at least 120 species even in the most uniform arable fenland with few wet ditches and no villages. In most cases a total of 150 species should be attainable. Thus, focus must now be the "orange" (≤120 species recorded) tetrads where they are situated away from the fen edge or coast.
- In 2017, we walked a lot of the "Fen edge" tetrads to be sure which taxa occur in Fenland and which do not. These apparently well-recorded tetrads will be targeted in again 2018, to ensure the totals are not wrongly inflated.
- This year (2018) will also target sites of classic Fenland specialities and rarities, especially where the plants have not been observed recently. Assuming we finish the "tetrad-bashing" in 2018, we may continue to do some checking of such old sites in 2019 – to provide relief from the writing!

However, we still maintain that more data from anywhere in Fenland are useful. The *Fenland Flora* sets out to improve the botanical knowledge of this region of the UK and to ensure that our region is properly covered for the next national Atlas as well as our own project.

Anyone interested in contributing to the Fenland Flora should contact:

Owen Mountford at om@ceh.ac.uk or fenburdock@icloud.com and 193 Great North Road, Eaton Socon, St Neots, Cambridgeshire, PE19 8EE *or*
Jonathan Graham at jonathan.graham@ntlworld.com
Our web-page is on the BSBI website: http://www.bsbi.org.uk/fenland.html

To help recorders, we will provide on request:

- Standard BRC record cards and those specific to each of the Fenland counties
- Documents defining Fenland – especially important at the edge of our recording area
- Prospectus for recorders, outlining the project objective and how they can help
- The updated listing of priority tetrads for survey, identifying those with no *Fenland Flora* data or with fewer than 125 species recorded.
- Back-up with difficult identifications

Once more, we wish you happy botanising in 2018, with our gratitude for your efforts so far and look forward to your future contributions toward putting the flowers of Fenland on the map.

Jon and Owen, 5th May 2018

Bringing the *Fenland Flora* to a conclusion? Autumn sun on the Fenland boundary – the outfall of the Steeping River (Wainfleet Haven) © Owen Mountford BSBI (2017)