

A Fenland flora – an announcement

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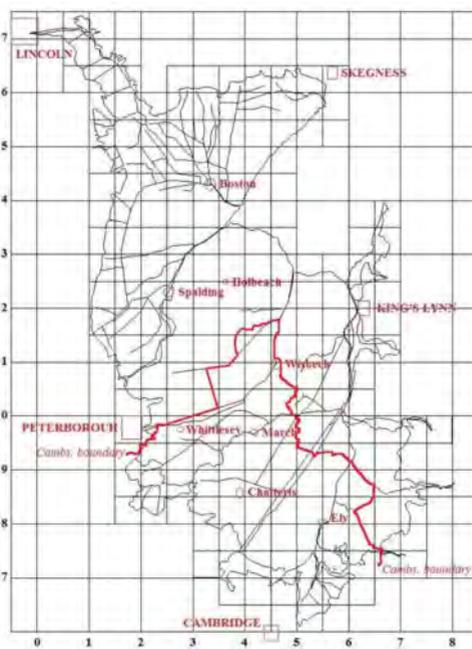
Why compile a Fenland flora?

Fenland is one of the most intensively farmed areas of Europe, stretching from Lincoln in the north to Cambridge in the south and occupying about 4000km². Reclaimed over centuries from tidal marshes and floodplain fens, the present landscape is one of large arable fields separated by ditches that feed into a highly engineered network of main drains and rivers. Most of this former wetland is at or around sea-level and depends upon complex flood defences to protect it from marine and riverine flooding. Older human settlements in Fenland are often sited on slightly higher land (normally 2-10m above sea level) that would have been islands within the ancient, undrained wetland, and it is on these clay islands standing above the peat and alluvial soils that the great majority of pre-19th century development is situated.

Within the modern Fens, the main refuges for native wetland plants and vegetation are drainage channels, older road verges and floodbanks, and locally flooded gravel and clay workings. On the 'islands' were natural woodlands (the last felled in World War I) and grassland created for livestock and the draught animals that worked surrounding arable land. Increased human population, mechanisation of agriculture and the demise of mixed farming has greatly diminished the extent of these old grasslands during the 20th and 21st centuries. Between the *First land utilisation survey of Britain* (Stamp, 1937) and the *Land cover map of 2007*, the proportion of arable land rose from 68% of Fenland to 83.7%, whilst the grassland area fell from 22.4% to only 8.6%.

The counties that make up Fenland have been studied botanically since at least the 17th century, but, almost without exception, the Fenland parts of these counties have been relatively neglected. Few botanists have been resident in Fenland, and those from outside have often perceived the region as of little

interest. Some areas were under-recorded, *e.g.* the Cambridgeshire part of TL29 was believed to have <350 species but has been shown since *c.*1970 to have at least twice that number. Other areas, especially out in the 'cabbage patch' of south-east Lincolnshire, had hardly any detailed data. The Fenland needs a proper account of its flora – but what kind of flora would be most suitable?



Fenland flora (showing main settlements, watercourses and the Cambridgeshire border, to aid location).

The Fenland flora project: defining the Fens

The Fenland Basin is the subject of a major long-term survey (*c.*2006-2016) to map the distribution of the entire vascular flora and to characterise the plant assemblages that occur in this mainly artificial landscape. The project differs from the UK tradition of floras for administrative counties in that the focus is a landscape defined by topography, hydrology and soils – see boundary map. Of floras in

lowland England, only John Trist's *Ecological flora of Breckland* (1979) is really comparable to this innovative project. The guiding principles for defining Fenland are:

- Altitude <5m AOD, except on wholly included Fenland islands.
- On loamy peats and groundwater gleys, but including brown soils and stagnogleys on islands and in the Townlands, as well as unripened gleys of the Wash saltmarshes.

The recording unit for the survey is the 4km² tetrad of the UK national grid. The approach combines new field surveys of all important habitats present within each tetrad and a compilation of records from published and database sources for the period since 2000, as well as an account of floristic change over the centuries and up to the present day. The project is also contributing information directly to all the projects from vice-counties that overlap Fenland and which are co-ordinated by BSBI recorders.

Progress to winter 2012-2013

The *Fenland flora* project is assembling a database of species growing in this region. The focus for new surveys has been mainly on areas previously under-recorded, but important

datasets from sites of conservation importance (e.g. Wicken Fen and the Ouse Washes) have also been incorporated. Despite the incomplete coverage, clear patterns are already emerging, especially for aquatic macrophytes and the species of older grassland. These surveys confirm the importance of some well-known sites (e.g. those highlighted in the *Fens Biodiversity Audit*) as well as indicating new areas meriting attention and populations of regionally scarce plants.

Next steps – how you can help

In the first phase of the project we have made considerable progress in surveying the Fenland, but we now want to redouble our efforts and involve more people with an interest in this unique area. The *Fenland flora* will continue to target tetrads without any modern data or with very sparse information, attempting to complete coverage of the region in the next 4-5 years. Attention will also be paid to the river valleys entering Fenland where they meet the definition of the flora area, as well as any potential hotspots for botanical diversity.

Anyone interested in contributing to the *Fenland flora* should contact the authors.