A Fenland Flora – Prospectus for Recorders
Revised 10th February 2015

Why should we 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 4000 km^2. 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 located 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 II) 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 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 shown since *ca* 1970 to have at least twice that number. Other areas, especially out in the "cabbage patch" of SE Lincolnshire, had hardly any detailed data. ***The Fenland <u>needs</u> a proper account of its flora – but what kind of flora would be most suitable?***

The scope of the *Fenland Flora* project: Defining the Fens

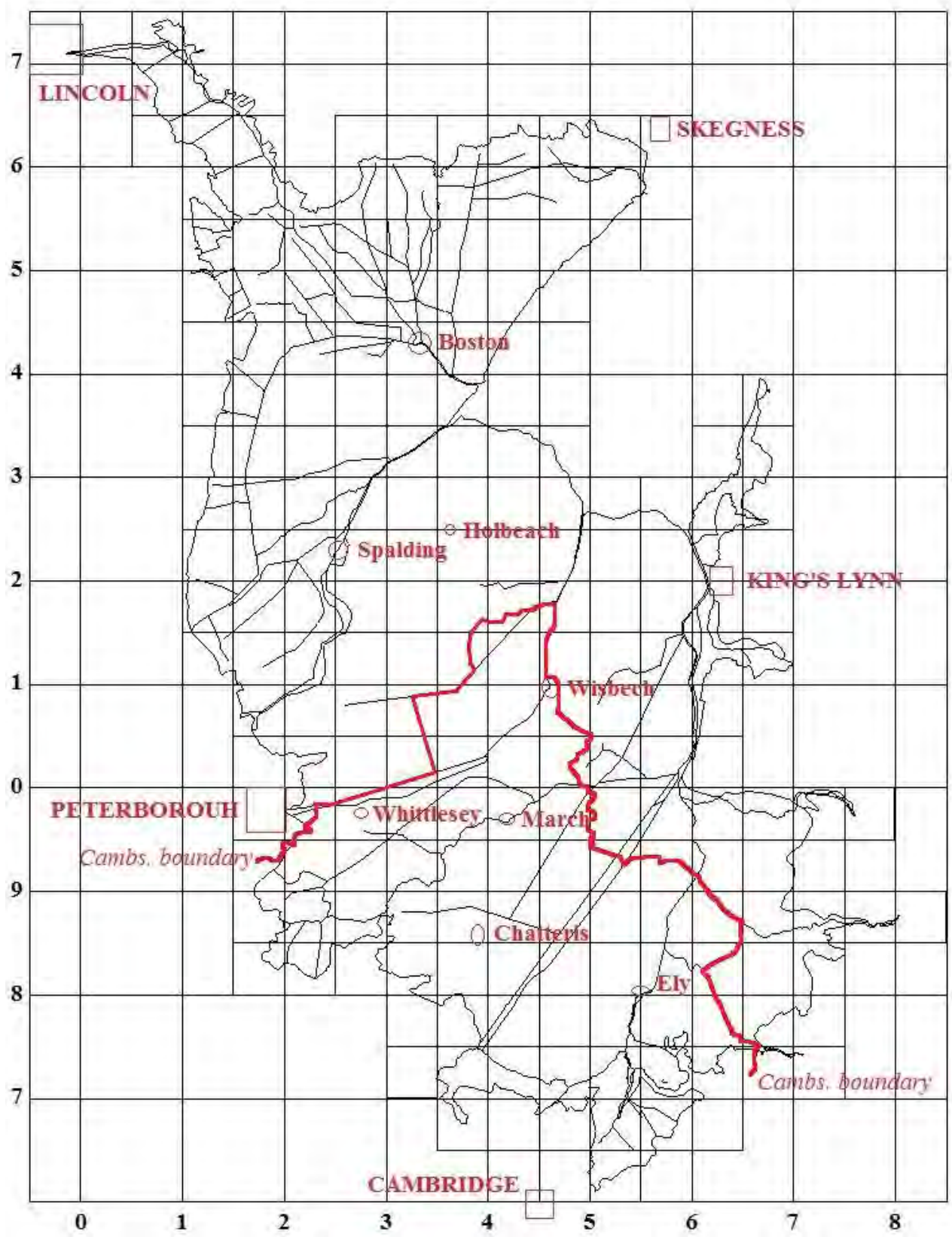
The Fenland Basin is the subject of a major long-term survey (*ca* 2006-2018) to map the distribution of the entire vascular flora and to characterise the plant assemblages that occur in this mainly artificial landscape. The project differs from the UK tradition of floras for administrative counties 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 salt-marshes

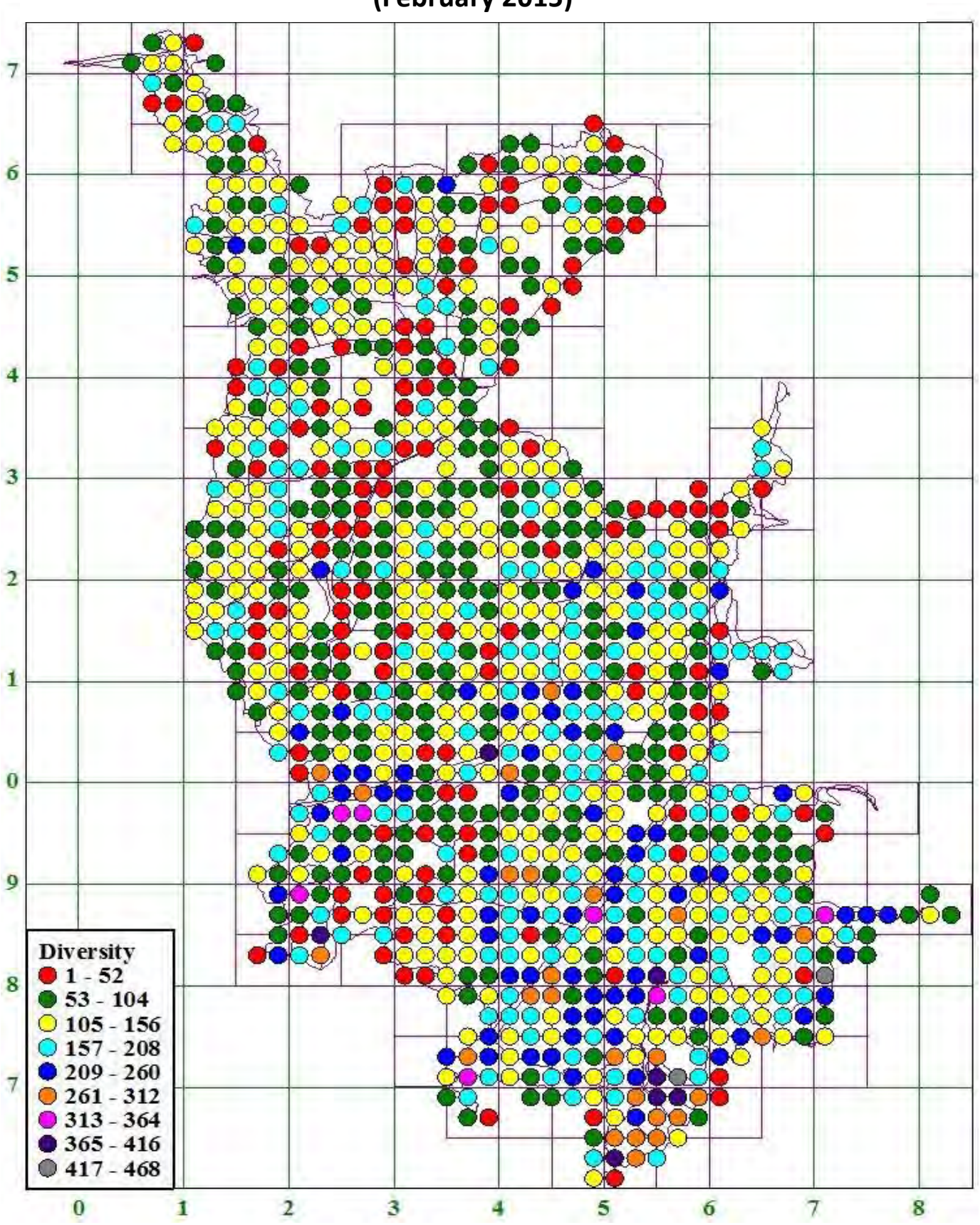
The recording unit for the survey is the 4km^2 tetrad of the UK national grid. The approach combines new field surveys of all important habitats present within each tetrad and a compilation of records from published and database sources for the period since 2000, as well as an account of floristic change 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 coordinated by BSBI recorders. In turn, these county-based floras, the national *Biological Records Centre* and *National Biodiversity Network* will be able to contribute data to the *Fenland Flora* project.

Boundary Map of the Fens as used in the *Fenland Flora*

(Showing main settlements, watercourses and Cambridgeshire border to aid location)



Fenland Flora: Coverage of tetrads within the recording area (February 2015)



Progress to date:

The ***Fenland Flora*** project began formally in 2005/6 and has assembled a database of species growing in this region. At first, the focus for new survey was mainly on areas as yet under-recorded, but important datasets from sites of conservation importance (*e.g.* Wicken Fen and Ouse Washes) have also been incorporated together with data from the BSBI recorders for West Suffolk, Cambridgeshire, Huntingdonshire and Northamptonshire. Despite there still being numerous poorly recorded areas in Fenland (see **map of coverage**), clear patterns are emerging, especially for aquatic macrophytes and species of older grassland. Our surveys confirm the importance of well-known sites (*e.g*. as highlighted in the *Fens Biodiversity Audit*) and indicate new areas meriting attention and populations of regionally scarce plants.

In parallel to the *Fenland Flora*, significant surveys of drainage channels in southern Lincolnshire by Richard Lansdown and others have shown Fenland drains to be amongst the most important refugia for macrophytes in lowland Britain. Fenland is the focus for possibly the most ambitious programme of ecological restoration in Northwest Europe, notably the Great Fen Project, the Wicken Vision and the South Lincolnshire Fenlands, but also RSPB projects at Lakenheath and associated with the Ouse Washes, the Wissey Wetlands and the remarkable private initiative at Kingfishers Bridge, Wicken. These projects have mobilised botanists both to record the changing flora and to provide ecological monitoring of the progress of habitat creation – once again these data can contribute to the *Fenland Flora*.

Next steps

In the first phase of the project we have made considerable progress in surveying Fenland, but we are now redoubling our efforts and involving 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 3-4 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. Within the published flora, we intend to produce maps that summarise the known distribution in four periods: a) Pre-1950; b) 1951-1970; c) 1971-2000; and d) post 2000. The account will pay attention to the historical context, but as the quantity of data for the period pre-1950 are so sparse or localised, the chief focus must be the status of the flora in the early part of the 21st century.

How botanists and others can help:

I. Contribute new tetrad or site-specific surveys of plant species – whatever scale you work at, please ensure that each individual record can be located to a particular tetrad. If you need guidance as to where to focus your efforts, contact us and we'll discuss which areas need real attention.
II. Identify historical data-sets (pre-2000) that will enable the Fenland Flora to reconstruct change. Help with access to these data would be very useful.
III. Special attention is needed to some critical groups *e.g. Callitriche*, pondweeds, water-crowfoots, *Salix* and *Populus* species, as well as *Rosa, Rubus* and *Taraxacum. Hieracium* is fairly insignificant in Fenland.
IV. We are building a dossier of photographs of Fenland sites, habitats and species. If you have pictures that might be useful to the eventual flora, do let us know.
V. Finally, the network of public rights of way in Fenland is sparse and some tetrads have no public access at all. If landowners and those managing the drainage network are able to help us with allowing access for botanists, we would be grateful and provide them immediately with copies of the data relevant to their area, so that they know what they have and can manage their land in an informed way.

Anyone interested in contributing to the Fenland Flora should contact:

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