



**Centre for
Ecology & Hydrology**

NATURAL ENVIRONMENT RESEARCH COUNCIL

**NERC Centre for Ecology and Hydrology
Maclean Building
Benson Lane
Crowmarsh Gifford
Wallingford
Oxfordshire
OX10 8BB**

Tim Harris
Catfield Hall
Catfield
Near GREAT YARMOUTH
Norfolk
NR29 5DB

2nd September 2013

Dear Tim

2013 studies on Catfield Fen, Norfolk

After my visit of 30th August 2013 to Catfield Hall and the adjacent fens, I re-read the two reports that had been sent to me by Chris Bradley:

Aldus, M. and Parmenter, J. (2013). *Vegetation Survey for Catfield Fen*. Report to Mr & Mrs Harris by the Landscape Partnership. Bedford: Landscape Partnership.

Barendregt, A. (2013). *Catfield Hall Estate fens (Ant Broads, Norwich) – report of visit June 5th 2013*. Utrecht: Copernicus Institute, Utrecht University.

Taken together these two reports present a quite coherent picture of recent vegetation change on the Catfield Fens and the probable causes.

The *Landscape Partnership* report covers most of the fens in your ownership and benefits from the earlier survey conducted by Dr Parmenter in 1991. There are perforce some weaknesses in the work, as the number of samples at the two dates is somewhat limited. However the *Partnership* study has used a number of approaches (NVC, Ellenberg Indicator values, pair-wise comparison of quadrats in as far as possible the same location at the two dates) which together reflect consistent differences between 1991 and 2013. I would suggest that the vegetation datasets for the two dates are merged and subjected to an exploratory ordination in the context of any environmental data that are available (probably using the CANOCO statistical package). This would not provide a measure of confidence in the scale of the apparent changes, but would greatly aid understanding of the spatial and temporal patterns. Notwithstanding these suggested refinements, the report does strongly suggest that surface acidification of the fen has occurred, and that this is especially marked in Middle Marsh.

The report from Dr Barendregt complements the work of the Landscape Partnership very well. Dr Barendregt works within a research group with a long and much respected history in the eco-

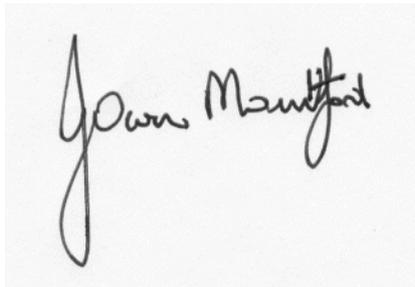
hydrology and restoration of fens and tidal freshwater wetlands. He has published widely in the highest grade ecological and hydrological journals as well as collaborating with some of the most eminent scientists in this field (see <http://www.uu.nl/staff/ABarendregt1>). The universities at Utrecht, Groningen, Wageningen and Amsterdam are world leaders in eco-hydrology and wetland restoration. Although there are some differences in the situation within Dutch wetlands and their Broadland equivalents, there is no doubt that any assessment made by Dr Barendregt will be rigorous, well-informed and accurate. He reviews the evidence from hydrology and vegetation studies at Catfield, and advances a convincing case for surface acidification of the fen soils. An altered balance between groundwater and rainwater inputs could well be the cause of these changes. Dr Barendregt's review includes some suggestions for further research about which I'll comment in a later letter. However, his conclusion that the Catfield Fens are in sub-optimal condition and declining is persuasive and should at very least lead to urgent new work, coupled with a moratorium on abstraction until its impact on these fens (SSSI, SAC and SPA) can be fully assessed.

I will copy this letter to Chris Bradley at Birmingham University for comment.

With many thanks for showing me around the Fen and introducing me to this interesting problem.

Best wishes

Owen

A handwritten signature in black ink on a light background. The signature reads "J. Owen Mountford" in a cursive, flowing script. The first letter 'J' is large and loops down. The name is written in a single line.

(J. Owen Mountford)