

Over much of Hatfield Chase, the solid and older Quaternary deposits are obscured by a variable thickness of sands. In part these reflect deposition from the levées of the rivers as they spread out across the plain of Lake Humber silts before beginning to cut deep channels towards the Humber Gap, whilst others mantle the landscape as blown sands, creating once extensive areas of heath and warren, now much depleted by agricultural improvement. At the base of the sands is often a thin peat horizon, and less well developed organic lenses also occur within the sands. This provides a detailed picture of a cold, tundra environment indicating deposition during the final stage of the last glaciation, the Lateglacial, which finished some 11 670 years ago. There is evidence of Late Upper Palaeolithic, Mesolithic and Neolithic occupation across this surface but it is only with sea level rising to close to that of the present about 4 500 years ago that extensive organic deposits began to accumulate and the peatlands of which Thorne and Hatfield Moors provide the last remnants started their development into lowland raised mires. Aerial photographic evidence and palynology shows an essentially open landscape by the Late Iron Age and in the Roman period large scale drainage began with the diversion of both the Don and Idle to new outfalls on the Aire and Trent respectively. In the seventeenth century Vermuyden attempted to revise this system, although not without problems.

Beginning with an introductory lecture summarising the postglacial sequence, the course will then examine the field evidence for Holocene environment change in the Humberhead Levels, beginning with the diversion of the Don, visiting the Late Holocene peatlands of Hatfield Moors and finishing at either Gringley Beacon or Alkborough for views across the region.

#### Background Reading

- Bateman, M. D., Buckland, P. C., Frederick, C. D. & Whitehouse, N. J. (2001). *The Quaternary of East Yorkshire and North Lincolnshire. Field Guide*. London, Quaternary Research Association.
- Boswijk, G. & Whitehouse, N. J. (2002). Pinus and Prostomis: a dendrochronological and palaeoentomological study of a mid-Holocene woodland in eastern England. *The Holocene* **12**: 585-596.
- Buckland, P. C. & Dinnin, M. H. (1997). The rise and fall of a wetland: recent palaeoecological research on Thorne and Hatfield Moors. *Thorne & Hatfield Papers* **4**: 1-18.
- Buckland, P. C. & Smith, B. (2003). Equifinality, conservation and the origins of lowland raised mires. The case of Thorne and Hatfield Moors. *Thorne and Hatfield Moors Papers* **6**: 30-51.
- Gaunt, G. D. (1994). *Geology of the country around Goole, Doncaster and the Isle of Axholme. Memoir of the British Geological Survey Sheets 79 and 88 (England and Wales)*. London, HMSO.
- Gaunt, G. D. (2008). The artificial nature of some Humberhead river and stream courses. *Thorne & Hatfield Moors Papers* **7**: 13-30.
- Gaunt, G. D., Buckland, P. C. & Bateman, M. D. (2006). The geological background to the development and demise of a wetland - the Quaternary history of the Humberhead Levels. *Yorkshire Naturalist' Union Bulletin* **45 Suppl.**: 6-46.
- Whitehouse, N. (2003). Peatland archaeology and palaeoecology: an archive worth rescuing? *Thorne & Hatfield Moors Papers* **6**: 66-72.