

GIBRALTAR POINT, LINCOLNSHIRE AND THE NORTHERN FEN EDGE

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The purpose of this excursion was to demonstrate the geology and scenery of the Fen edge between Tattershall and Skegness and the southern Wolds between Gunby and Winceby, together with the coastal processes which have generated the complex of shoreline features at Gibraltar Point.

From Tattershall to Mareham-le-Fen the route crossed the vast delta of flinty gravels, with patches of fine gravel and sand, created by the River Bain flowing south into Lake Fenland during the Last Glaciation (Weischel) 75,000 to 25,000 BP. To the north of the A155 the undulating country is the intensely chalky Calcethorpe Till of the Penultimate Glaciation (Saale) which plastered the Lower Cretaceous platform of the west and south-west Wolds.

The route diverted from the A155 to pass through Old Bolingbroke, situated in an embayment cut by spring-head sapping of Sow Dale and its tributary into the Spilsby Sandstone platform, and floored by Kimmeridge Clay. A good view was obtained of Bolingbroke Castle (1220-30; parts were derelict by 1600; was involved in Civil War 1643 after which it was largely pulled down) built of Spilsby Sandstone of both grey-green (glauconitic) and brown (iron-rich) types, said to have been quarried near Miningsby to the west but more likely from the steep edges of the dales focussing on Bolingbroke from north and east.

The route ascended onto the Spilsby Sandstone platform with its steep edges and abundant remains of early man on Old Hall Hill. By West Keal church the party stood on the degraded sea cliff of the Last Interglacial (Ipswichian). Along the foot of the slope is a narrow line of outwash sand and gravel from the edge of the ice sheet of the Last Glaciation. Extending to the south is the terminal moraine of that ice sheet, a low ridge which separates East and West Fens. Those Lindsey fens, together with Wildmore, were the last to be drained in the first decade of the 19th century.

Descending the degraded cliff to the A155 and A16, the route turned off again to pass through Toynton All Saints, a street village on the degraded cliff, where the slope is much shallower. At the foot of the slope were medieval pottery kilns (12th-13th and 16th centuries) using Kimmeridge Clay, and fen peat for fuel. The sites have been excavated but abundant potsherds can be found in a cultivated field.

A tortuous route was followed via Holton Hologate (hollow way - though the edge of the Spilsby Sandstone platform) crossing the River Lymn where its north-south meandering course was determined by a glacial spillway channel during Last Glaciation, and then across the undulating Middle Marsh (Marsh Till) and flat Outmarsh (largely marine silts). Eventually the route joined the A52, a medieval 'country bank' (erroneously called the Roman bank, a name still perpetuated in Skegness).

Until the 13th century Skegness was a 'ness' on the coastline at the corner of the Wash, the whole being in the shelter of the offshore barrier of low clay/sand islands from Holderness to Norfolk. The final breaching and destruction of that barrier resulted in the establishment of the beach and dune system on the Lincolnshire coast, the basis being re-sorted glacial sands and gravels thrown up on the shoreline. As the action of longshore drift is north to south, a sand and shingle spit with dunes gradually extended from what is now central Skegness to Gibraltar Point. This is the main line of dunes which form the Seacroft golf course and the west dunes of the Gibraltar Point Nature Reserve (Lincolnshire Trust for Nature Conservation). It had extended thus far by the second half of the 18th century and allowed gradual reclamation of Croft Marsh to the west.

The pattern of new beach ridges, many stabilised as dune systems, with intervening

saltmarshes, which have developed in the last 150 years is graphically displayed in the new Visitor Centre where members spent some time after lunch. A matter for on-going study and investigation are the reasons for the great seaward growth of the coast in the area of the reserve over the last 50 years. The amount of material accumulated cannot be accounted for solely in terms of longshore drift. It appears that some is coming from offshore sources to the north-east.

Detailed investigations have also been made over the past 25 years into changes in beach profiles and in particular into the development of the spit. The changing fortunes of the beach and spit are in contrast to the extensive mud flats and saltmarshes where finer material from the Wash 'sedimentation tank' is deposited under sheltered conditions. By following the permanent nature trail members were able to observe the succession of saltmarsh and sand-dune features together with the pattern of ridges and runnels exposed on the foreshore at low tide and the offshore sand-banks. The party walked to the distal end of the spit to observe the contrasts in depositional features by the outfall of Wainfleet Haven. It also enabled an investigation of the amazingly varied assemblage of erratic material (originating from Scotland, northern Pennines, north-east England and Scandinavia), which occur on the spit.

The return route followed the A158 across the Outmarsh to Burgh-le-Marsh and the Middle Marsh to Gunby corner. To the north is the spur of the Wolds thinly capped with Chalk. At Candlesby the route crossed a spur caused by the harder Roach Stone in the Lower Cretaceous series. Further west the hamlets of Scremby and Grebby are sited on a similar narrow platform.

At Sausthorpe the route turned south off the Spilsby Sandstone platform which surrounds the Lymn valley floored by Kimmeridge Clay, crossing the river, back on to the platform near Raithby, there capped by Calcethorpe Till. On both sides of the valley road cuttings in the edge of the sandstone platform were noted. To the south of the A1115 is the cleft of Sow Dale and to the north the multiple valleys of Snipe Dales Nature Reserve (Lincolnshire Trust) - both the result of vigorous spring-head sapping. At Winceby top, excellent visibility allowed a view of Lincoln Cathedral - the Lincoln Gap, Tattershall Castle and Boston 'Stump'. The route turned south to cross the undulating country of Calcethorpe Till rejoining the A155 and so back to Tattershall.

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