

UPPER REACHES OF THE RIVER WELLAND.

KESTEVEN AND SOKE OF PETERBOROUGH.

On the 13th inst, I inspected the Valley of the WELLAND <sup>from</sup> ~~from~~ the lower Locks, Deeping St James to Shuttle Head, above Tallington, in company with Mr T. O. Mawby. Chairman of the Welland Outfall Bd: Mr H. de. B. Wilmot. Chairman of the Maxey Drainage Bd: Mr H. Bain. Engineer to the Deeping Fen Trust: Mr G. ~~Searcos~~ of Tallington and Mr W. E. Porter of Deeping St Nicholas.

The Deeping Fen Trustees are responsible for the maintainance of the Channel of the Welland from Spalding High Bridge to Town End Tunnel: for the North Bank of the River between the same points, and for the Cradge Bank, ~~from~~ Town End Tunnel to Deeping St James Parish Boundary.

They also ~~take-pp~~ undertake the regular roding of the Riveras far up as the Low Locks, Deeping St James under a private arrangement, whereby they, the Maxey Drainage Bd and the Deeping St James Parish Council each bear one third of the cost.

So far, therefore, as the length of the river between Spalding and Deeping St James is concerned, its care is a definite concern of constituted authorities. Above the lower Locks, no constituted authority appears to be in any way responsible.

At the Lower Locks (gates long since removed) there is a short-looped bye-pass channel across, half of which there is a masonry dam, above which is fitted a pair of geared winches, by means of which fall down metal flaps <sup>not metal</sup> can be raised or lowered by chain attachments for the regulation of the flow.

Above this point there is a single channel to Market Deeping, an old navigation lock, an open weir of about 30 feet opening, having iron standards at intervals for the fitting of wooden flashers on the weir, and a low masonry dam with similar provisions for regulating the flow of these above described, as crossing the main channel at the lower locks.

The regulating flaps at the lower locks are controlled by the Maxey Drainage Board: All the rest of the provisions at the lower and upper locks are controlled by the Deeping St James Parish Council. (*Reverend R. B. C. ?*)

Between Market Deeping and Shuttle Head, the river is divided into two main loops, the northern loop being a Mill stream, which is crossed by two Mills at Market Deeping, and one at Tallington. The two loops are, however, joined by a cut at West Deeping, and this cut is crossed by another Mill. The southern loop, which forms the Welland proper, has short bye-pass loops at <sup>Maxey & Holham, and each of these bye-passes is crossed by a mill.</sup> According to Contours and spot levels marked on the 1" O.S. Map, the fall, of the river from Shuttle Head to the lower locks, a distance of 5½ miles is approximately 38 feet, equivalent to nearly 6 feet to a mile.

In spite of this natural advantage of gradient, from 3,000 to 4000 acres of excellent pasture land in the parishes of Market Deeping, Maxey, West Deeping, Bainton, Tallington & Uffington are constantly liable to flooding or water-logging due to the overflow at spate periods of one or other or both of the main loops.

Broadly stated the cause of the trouble is that, owing to the entire neglect of the natural channel of the river, it has become altogether incapable of discharging anything above a low summer flow. As a consequence, flood waters from a catchment area of about 205,000 acres must find their way either

4 Mills.  
2 at West Deeping  
1 " West "  
1 " Tallington

through the mill sluices on the northern loop or over the land.

As instances of prevailing conditions, it may be mentioned that above Shuttle head the river is about 50 feet in width: Just below Tallington one may step across it dry shod, at one point here, it is accommodated under an occupation bridge way in a 30" Culvert, lower still, it varies in width from 2 to 30 feet, whilst at hundreds of points between Market Deeping and Tallington it is fouled with fallen trees, shoals, cesses and ingrowths.

In my opinion there is no physical reason why the whole of the lands now subject to injury by water should not be rendered immune from such injury and I think it is fair to suggest that practically the whole of the grass lands, now so subject, might, as a result of remedial measures, be rendered available for cultivation.

I would recommend that notices under ( K ) be served requiring the persons concerned to lower the crests of the high masonry weirs or dams at the lower and upper locks at St James Deeping, and Deeping Gate respectively by 12" in each case: To build across the lock opening at the upper locks at Deeping Gate a masonry dam or weir with crest level equivalent to the present level crest level of the higher weir or dam; to remove the disused and decayed lock gates and to cleanse the lock to original bed-level, and, that notices under ( H ) be served requiring the persons concerned to remove from the channel of the river above the upper locks the present accumulation of stone and other rubbish to a depth at least equivalent to the lowered crests of the higher weir or dam at that place: To cleanse resection and regrade the old channel of the Welland from the invert of the road bridge at Uffington, so that the bed of the channel shall not be less than an average width of 14 feet; the sides of the channel to be battered to 1 $\frac{1}{2}$  horizontal to 1 vertical and the inclinations of the beds to be that of the natural gradient between the ordinates above mentioned: That Notices under ( K ) be served upon the persons concerned requiring them (a) to dismantle the ruined overfall weir from the millstream between the two mills at Market Deeping into the Welland, and re-build in masonry or Concrete to a width of not less than 16 feet on the crest, the level of which shall be not more than 5" inches above the statutory or prescriptive water head at the lower of the two mills, and, (b) to remove the ruined timber weir or dam across the Welland above Maxey Mill, and to erect in place thereof a masonry or concrete weir or dam at least 16 feet in width on the crest, the level of which crest shall be not more than 4" inches above the statutory or prescriptive water-head at the mill.

After the above described works have been completed, I should recommend that notices under ( I ) be served upon the persons concerned requiring them fully to draw the whole of the sluices at the 6 Mills above mentioned, for 3 hours each night, except Saturdays, and on Saturday nights for 6 hours until further notice, and, in any case that the use of the boards on weirs or flashers or paddles on sluices be dis-allowed except where it can be shown that they are necessary in order to maintain a statutory or prescriptive water-head. Good.

1<sup>st</sup> Is there sufficient summer  
flow to allow this? +  
2<sup>nd</sup> Would suggestion meet the  
requirements under flood  
conditions.

It would be very desirable, in my opinion, that a permanent weir with a crest level to be ascertained, should be placed across the Welland at Shuttlehead so that water required for the mills might be retained at the required head during the dry periods, and that any water in excess of that head might be automatically voided the river channel. As a temporary measure some arrangement of timbering might be adopted with this view.

*Would suggest  
sluiceways  
in Weir to  
void excess  
water in  
spates*

I think it would be desirable that a new drainage board to comprise the whole of the affected areas which include the area of the existing Maxey Drainage Board, should be formed, and that the main channels and their main feeders should be brought under jurisdiction.

*By whom controlled?*

I have some reason for thinking that the Maxey Drainage Board, and several of the more important Landowners and occupiers in the affected districts would welcome the advent of a larger controlling body.

Possibly any advance which the B of A might be prepared to make towards the cost of the required works of improvement, might be taken over as a debt of such drainage board on its formation

(Intd) G. W. J. C.

March 14th 1918.

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