

CHAPTER TEN

THE RIVER BETWEEN HERTFORD & WARE

10.1 The early seventeenth century

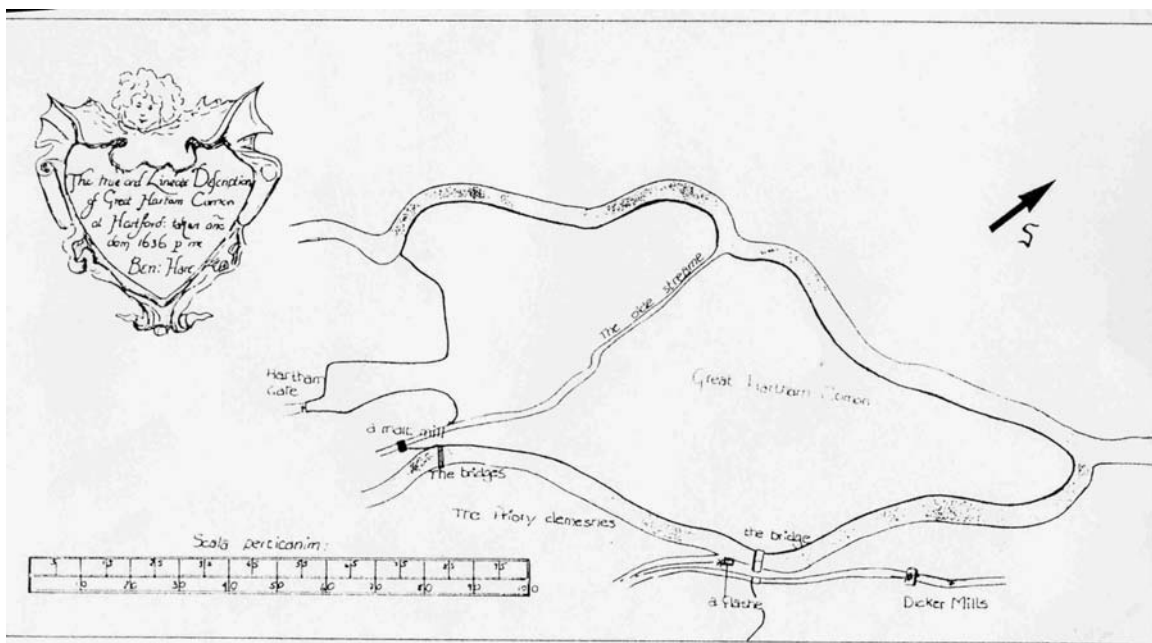
When Fanshawe blocked up the head of Black Ditch in 1595 (see 4.5), he severely limited the navigation between Hertford and Ware, as he obviously intended. It was not until the middle of the seventeenth century that efforts were once more made to improve this stretch of the river.

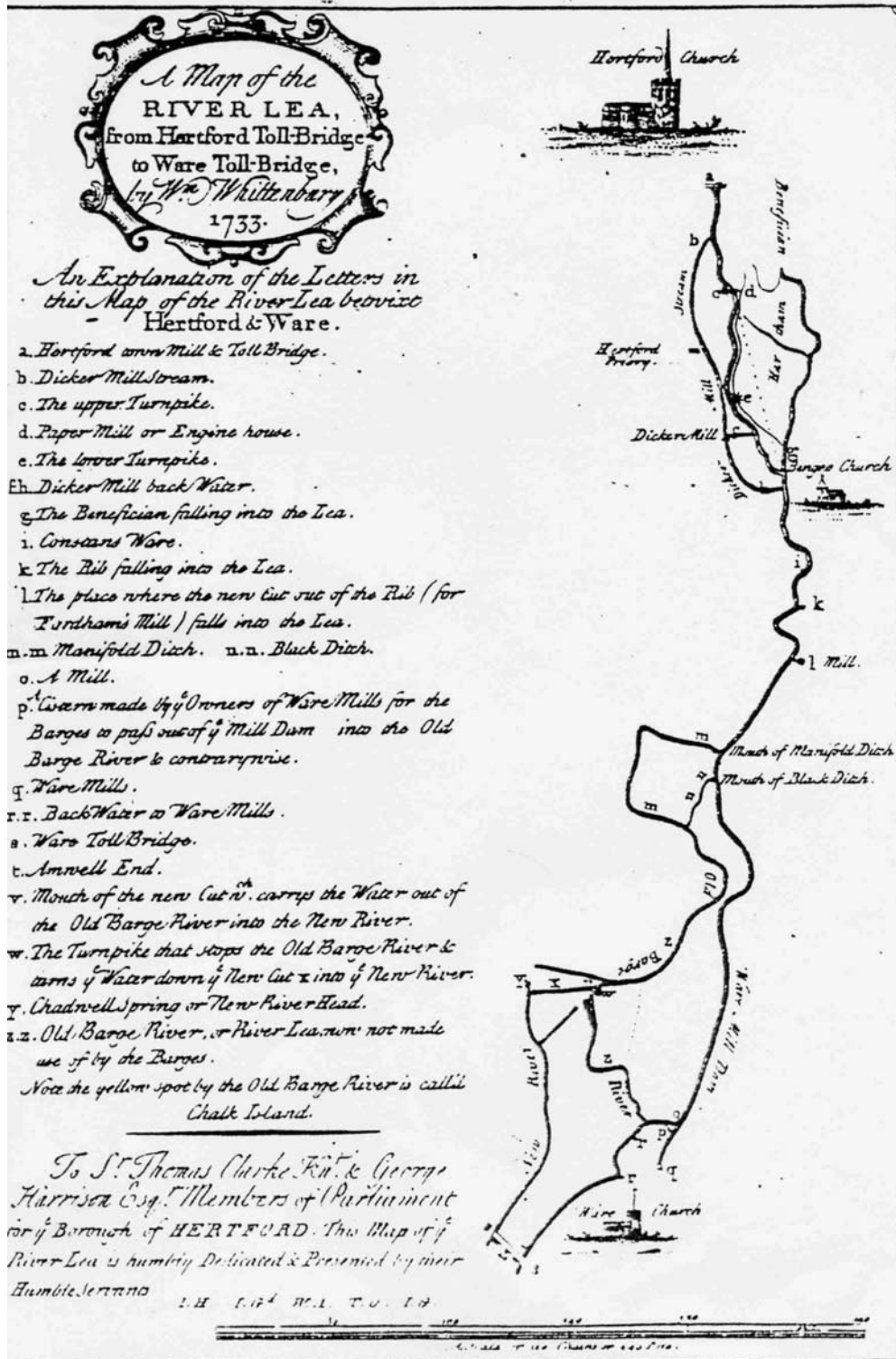
During the intervening period some limited movement of boats was possible, although evidence of such is sparse. A survey of the manor of Hertford in 1621 noted that the Black Ditch was still stopped up, and commented that this was to 'the great annoyance and hindrance of the passage of barges'

, not that passage was prevented altogether. There is also a reference to bargemen bringing deal boards to Hertford in 1633. What is clear is that the large barges which could come up the Lea to Ware could not then progress upwards to Hertford. Only smaller vessels could navigate this stretch and then maybe only on certain occasions.

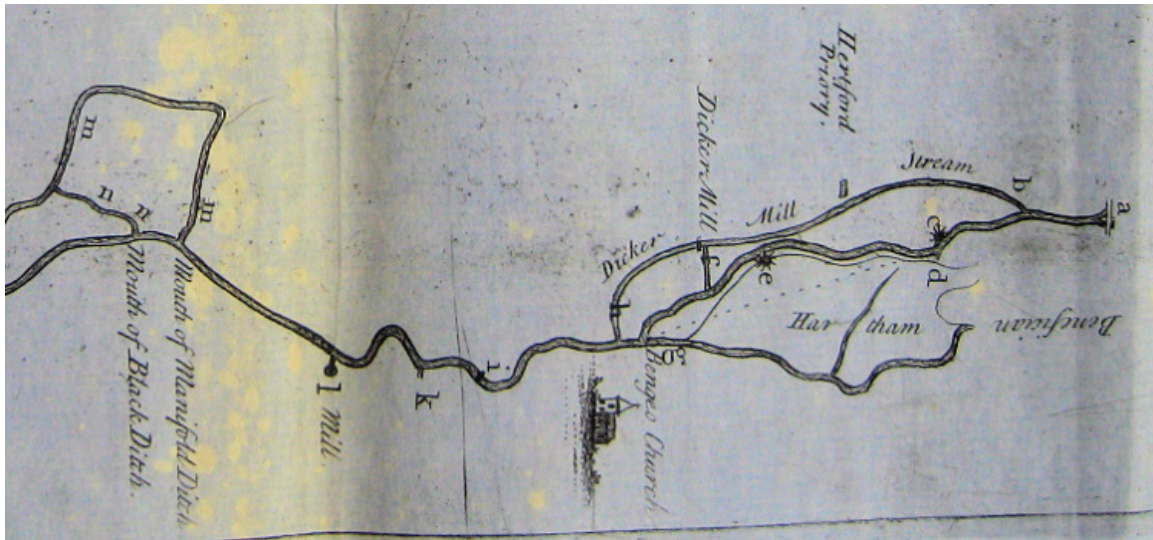
Reference to the maps reproduced as Figures 7 and 8 show how this limited navigation was possible. Boats passing down from Hertford to the mouth of Manifold Ditch could receive assistance from 'a flashe' in a back-water of Dicker Mills, (see Figure 8), and further assistance from the fishing weir 'Constants Ware', shown as i on Figure 7.

FIGURE 8: HARTHAM COMMON, 1636





FIGURES 7 and 7a (enlargement below): THE LEA, HERTFORD TO WARE, 1733



The barges then passed down the circuitous Manifold Ditch, marked m, and the Old Barge River marked z on Figure 7. Emerging out of this ditch just above the back-waters of Ware Mills, the barges then proceeded down to Ware Bridge, with assistance from Ware Mills if this was necessary.² The Commissions of Sewers issued for the river at this date had authority over this stretch of the river and must have taken steps to preserve it, but an additional factor was that the Hertford burgesses began to assume some responsibility themselves. There are several references to the borough spending small sums on scouring the river and cutting down weeds between the town and the end of Hartham Common, and on one occasion they raised a rate for this purpose from all those with commoners rights on Hartham. This despite some confusion as to whether the borough or the manor had been granted rights over this stretch of the river.³

3. *See also Chapter 9 fn. 9. The Hertford historian, R.T. Andrews, makes the following comments about rights along the river: -'If we consulted the Grant to the Corporation(1627)...without looking to the Survey(1621) we might suppose that that part of the River Lea ... were conveyed by that Grant to the Corporation; but when we look to the Survey and to the Grant to the Earl of Salisbury(1630) it would seem that no part of the River Lea was conveyed to the Corporation but that it was granted to the Earl'. However 'It is probable that both the Corporation & the Inhabitants considered that that part of the River ... became the property of the Corporation under the Grant. It is evident it was felt by all that it was to the advantage & convenience of the Borough that it should be so & that the Corporation, with the concurrence of the Inhabitants, acted as though it were so':*

10.2 The intrusion of the New River⁴

4. *Early history of the New River has been told by the following, but none have dealt in detail with the effects of the scheme on the Lea: B. Rudden, The New River; J.W. Gough, Sir Hugh Myddelton: Entrepreneur and Engineer(Oxford,1964); G.C. Berry, Sir Hugh Myddleton and the New River', Transactions of the Honourable Society of Cymmrodorion for 1956, 17-46.*

The tapping of the river Lea by the New River Company to augment their supplies of water for the capital was most probably the most important development along the river during the first half of the seventeenth century. Besides the localised effects on the passage of boats along Manifold Ditch, the extraction of water from the river without it being returned had implications for the navigation further downstream, especially during dry weather. The millers and the bargemen had cause for resentment.

When the scheme to supply London with water from Hertfordshire was first proposed, Edmund Colthurst, its instigator, promised that the water would come from springs and not from the river Lea. He thus felt that it would not be necessary to issue a Commission of *ad quod damnum** to see whether his plans damaged the interests of others.⁵

5. *Hatfield House, CP 184.50. Signature is E. Colthurst not J. Colthurst as calendared:*

Nevertheless such commissions were issued, but their findings were that his plans could not harm the navigation along the Lea.⁶ When Letters Patent were eventually granted to Colthurst in April 1604 it was carefully specified that his plans were not to hinder the passage of barges along the Lea, the Thames or any other navigable river

Colthurst's attempts faltered, and the City of London took over the scheme. Their initial intentions were different. In January 1606 the aldermen submitted a bill to Parliament 'for Bringing in of a fresh Stream of running Water from the River of Lee, or Uxbridge, to the North Parts of the City of London'. This bill was amended however, and the act stated that the sole source of water was to be springs at Amwell and Chadwell near Ware.⁸

Bargemen and millers had fears even about these proposals. In a petition, most probably submitted to Parliament in 1610, they argued that since the springs normally fed the river Lea, tapping them to supply the New River meant that their interests were harmed. These fears were dismissed by supporters of the New River, who cited the findings of the Commissions of *ad quod damnum* and argued that if the bargemen or millers could make a proper case, then the Commissioners of Sewers were empowered to give judgement on these disputes.⁹

9. *In 1610 a bill to repeal the New River legislation was before Parliament, these documents must have been submitted then.*

These complaints make it clear that the springs were still considered to be the sole source of supply. This was soon to change. The City of London had granted their powers to Hugh Myddleton, and it was he, together with the financial backing of King James, who completed the scheme and first supplied the London customers in 1613. Soon afterwards it became obvious that the springs were an inadequate source, and steps were taken in 1618 to authorise the Company to augment these supplies by tapping the Lea.

There are, however, two intriguing entries in the account books of the Company which could suggest a prior link. In March 1614, £10 was paid for carrying 200 loads of chalk 'too Rayse the great damme att the Mouthe of Ware Ryver';¹⁰ whilst in June 1615 25/-

was paid for digging and carrying 25 loads of chalk 'toe Repayre the great Damme att Chalke Ayland'.¹¹

Chalk Island was the place where the Company built a dam to turn water into their river once they had received proper authorisation. So what purpose did the dam there in 1615 serve? If it was to prevent water flowing out of the Lea into the New River, why did such a link exist in the first place? Had the Company tried to tap the Lea illegally before 1618? More evidence is necessary.

The business of obtaining proper authorisation began in September 1618 when a Special Commission was issued to Sir Richard Lucy and others 'ad inquirend et exequend sdm omnia et singula in scedula armex concernen Rivum de Lee'. The costs of this commission were borne by the New River Company, whose accounts referred to the 'Lorde Commissioners for the Waterworkes' and described their purpose as being 'for the takeinge in of Water oute of the Ryver of Lee & other things enquireable...for the good & benefit of ye Newe Ryver'.¹²

Contemporary evidence shows that these commissioners spent four days surveying the upper river above Waltham, spending nights at Ware, Hoddesdon and Waltham as they progressed down river.¹³ During this survey, as Chancery was informed in 1672, the commissioners considered just how much water would pass out of the Lea into the New River through a pipe of 20" diameter, whether this in effect doubled the supplies at the disposal of the Company, and whether this would harm the navigation. At the end of the survey the commissioners decreed that these developments 'would not make an abatement discernable in Lee River'.¹⁴

With this authorisation the Company laid the pipe, and built a dam in Manifold Ditch to divert more water into the drainage ditch which connected with the New River. Work which had been completed by the summer of 1620.¹⁵

The bargemen were not happy with such developments, and resorted to violence. In July 1619 they vented their displeasure with James for his part in financing the scheme by destroying several of the bridges which he had had constructed over the Lea to facilitate his enjoyment of hunting and hawking. In December 1620 they pulled down a dam in the New River at Ware End which regulated the flow of water, despite having met Myddleton a few days previously to try and settle their differences.¹⁶

The causes of such resentment are obvious, and indeed were acknowledged by the Privy Council in July 1619. They instructed Lord Denny to punish the bargemen who had damaged the bridges, but they also told him to scour and cleanse the Lea between Hoddesdon and Hackney. The work of the Special Commissioners had obviously been inadequate.

The consequences of this authorisation were that less water was available for navigation along the whole river, and the bargemen's objections to this were to resurface several times during the remainder of the century.

What effect, if any, the construction of the dam in Manifold Ditch had on the passage of boats between Hertford and Ware cannot be ascertained. However when attempts were made during the Interregnum to improve this stretch of the river once more, the favoured solution was to open a new route which by-passed the Ditch altogether.

10.3 The opening of a new route

This new initiative was undertaken by the burgesses and inhabitants of Hertford. They had been forced to accept the closure of the Black Ditch by Thomas Fanshawe in 1595 (see 4.5), but the fact that the Fanshawe family supported Charles during the Civil War before settling with the new regime meant that their influence waned, and this must have encouraged thoughts of restoring the navigation above Ware once more.

The first evidence of this initiative was that in October 1646 the burgesses decided to hold talks with a Captain Oliver Butler to see whether a turnpike could be built. Then in February 1647 the inhabitants of Hertford made representations to the burgesses that the navigation to Ware 'be laid open for boates...as formly yt hath ben'. A full answer was promised at the next meeting.¹⁷

The immediate response was that an agreement was entered into with Thomas Ebbs to preserve the banks in Hartham Common, with later agreement to scour and cleanse the river between Hertford Bridge and the end of Hartham Common. The Mayor also collected information from two elderly inhabitants about the state of the navigation before 1595.¹⁸ Nothing further is recorded about the turnpike, and it was certainly never built.

At this date the aldermen seem to have been in favour of re-opening the Black Ditch and erecting a turnpike at its head once more. The Oliver Butler(Boteler) approached was a parliamentary supporter who had taken possession of the manor of Ware after Sir Thomas Fanshawe, a staunch royalist, had fled abroad in February 1646. The fact that Sir Thomas returned to England in April 1647 and began negotiations to compound for the return of his estates may be sufficient reason why plans for the turnpike were dropped.¹⁹

19. Fanshawe had mortgaged the manor of Ware and other properties to meet a series of debts, including one of £1560 to Oliver Butler(Boteler), the son of Fanshawe's brother-in-law, Sir William Boteler. Sir William died fighting for the King, Oliver fought for parliament:

Several years were to elapse before these attempts were revived, but on this occasion the navigation was to be successfully improved. This second attempt was much more ambitious, and involved the construction of two turnpikes at Hertford, the opening of a new route down the head stream of Ware Mills, and the construction of a pound lock besides these mills. This pound lock was to remain the only such lock along the river until the 1760s

The first evidence of this new initiative was that in May 1655 the burgesses once more questioned elderly inhabitants about the navigation before 1595.²⁰ Then in September

1655 a jury presented to a Court of Sewers that the river between Hertford and Ware should be cleansed and scoured, and the commissioners promptly ordered that this be done by the riparian landowners at their own expense. At Hertford a town meeting was called, at which it was agreed that a rate be levied in the town to meet the costs of scouring the river down to the end of Hartham Common. This rate was then confirmed by the commissioners a couple of weeks later.²¹

It seems likely that more ambitious proposals were either discussed at or stimulated by this town meeting, for in January 1656 the burgesses appointed a committee consisting of the Mayor and ten burgesses or assistants. This committee were instructed to 'take care to set Men on Work, to make the River Navigable ... out of the Money, that is collected for that Purpose'. Then in February it was decided to solicit funds from anyone outside the town who would be willing to support 'soe good a worke'.²²

22 *Members of committee:- Joseph Dalton, mayor(died 1658); Isaac Puller; Thomas Hawes; Captain William Minors; Edward Lawrence, senior (died March 1658); William Gardiner; John Clarke, committee treasurer; Joseph Bunker; Adlard Bowde; John King; John Pritchard. Those underlined refused oath of allegiance after Restoration.*

In March the committee met to decide which of several alternative channels past midstream islands were to be fixed as the navigable channel, and they also reached agreement with William Green, the miller at Dicker Mill, and several local landowners as to the level of their contributions to this work.²³

Then in June 1656 another town meeting considered and supported a proposal to build a turnpike 'for the better bringinge upp of Barges', resolving that the burgesses borrow £20 to finance this work. Problems may have arisen in obtaining this loan, for in October another town meeting agreed that 'the Navigation cannot bee compleated without a Turnepike', and several persons present promised to lend small sums totalling £17 1/-.²⁴

24. *Ibid, fos.374,376. Sums lent were:- William Gardiner, mayor £3; Capt Mynors,'hee give 20/- rather than faile' £2; Mr Turnor £1; Mr Clarke £1; Mr Buncker £1 10s; Mr John Hyde £1 10/-; John Prichard £1; John King £1; John Heller 10/-; Geo Seelye £1; Geo Peach 6/-; Adlard Bowde £1; Edward Norris 10/-; John Field 10/-; William Carter £1; Henry Browne 5/-. In addition to those noted in fn.22, Turnor and Carter were also to refuse the oath of allegiance in 1662.*

The above evidence suggests that the improvement scheme emerged, evolved, and became more ambitious as a result of frequent discussion in the town. This was to continue. The proposals in June and October mentioned only one turnpike, but two were actually built.

These were the upper turnpike across the Lea just below its parting with the head stream of Dicker Mill (point c on Figure 7) and the lower turnpike a short distance below(point e on Figure 7).

The decision to build two rather than one turnpike seems to have arisen out of complaints from bargemen in December 1656 that they were experiencing problems in bringing up their barges to Hertford. They felt that the existing agreement with Green was

unsatisfactory, and that the stakes he had placed in the river to turn water to his mills were an obstruction.

The agreement existing at this date gave Green leave 'to turne the water out of the River of Lee to his Mill duringe pleasure or untill the Navigation was required to bee open and cleare', but the exact arrangements are not known.

After investigation, the burgesses ordered that the stakes be pulled up, and negotiations were begun which led to an agreement in November 1657 with the owner of Dicker Mill, Mr Andrews. By this agreement the turnpikes, a plural usage for the first time, were adapted so as 'to make them fit for Conveying Water to Dicker Mill'. In return Andrews contributed £20 towards the improvements and agreed to pay thereafter an annual rent of 10/- towards the navigation.²⁵

Problems were soon to be experienced with these turnpikes. The Mayor's accounts for 1658-59 provide details of 'An accompt of the materialls of the two boxes at the Turnpikes that were made to put the flash gates into & findinge them not usefull were ordered to bee taken upp 1657 & disposed of'. Such problems meant that a new rate was levied in March 1657, that a further £30 was borrowed in August (although £20 was repaid within a few months), and major rebuilding of the turnpikes had to be undertaken.²⁶

Then in April 1659 it was reported that serious flooding the previous winter had severely damaged the lower turnpike and the banks of the millstream. Another £10 had to be borrowed to repair this damage, and to lower the sill of the lower turnpike.²⁷

27. *£10 raised by borrowing £1 from each of the following:- William Turnor, Mr. Gardiner, Mr Clarke, Mr Bunker, Mr Mason, Mr Bowde, John King, William Carter, Abraham Rutt, Coronett Thomas. These sources state that it was the middle turnpike which was damaged, but it was Hertford lower turnpike which suffered. There are several references to three turnpikes, the two turnpikes at Hertford and one other, which could be either the private fishing weir, Constants Weir, or the pound lock at Ware Mills*

Besides these measures along the stretch of the river the borough always regarded as their own, Hertford Bridge to the end of Hartham Common, the burgesses were also involved in substantially improving the navigation from the end of Hartham Common to Ware. To attain these ends the burgesses reached agreement with Fanshawe and the New River Company, and in December 1656 applied for a new Commission of Sewers.

The agreements reached were that Manifold Ditch was blocked up and barges allowed to pass down the head stream of Ware Mills instead. From a point just above these mills a short cut was dug between the head stream and the Lea, and in this cut a pound lock, or 'cistern' as it was termed, was built, at point p in Figure 7 .

Of the genesis of this initiative little is known. All that is, is that at some date before June 1658 the burgesses and Fanshawe had signed their agreement, for in that month the

burgesses hired carts to carry timber from Fanshawe's estate at Brickendon to build the pound lock and also met some small bills for bricklaying at Ware.²⁸

The agreement itself outlined the new route to be used by the barges, and fixed a toll of 6d that was to be paid every time a barge passed through the pound lock. Arrangements were also included whereby the mills could be shut down or be used to provide additional flashes of water, if such assistance was needed to carry barges down to Ware Bridge.²⁹

Other aspects of the new route were to be more controversial, especially the closure of Manifold Ditch, for it was from this stream that the New River Company took their supplies of water from the Lea. In 1658 the Commissioners of Sewers sought a compromise between the conflicting parties.

They ordered that a dam be placed across the mouth of Manifold Ditch to turn more water down the head stream, but restricted the height of this dam so that some water could pass over it into the Ditch. To compensate the Company for the reduced flow of water in the Ditch, the commissioners authorised them to erect a dam across the Ditch just below their intake at Chalk Island so that most of the water entering the Ditch could be diverted into the New River. The commissioners also decreed that the Company could lay down two pipes, one of 16" bore, the other of 9" bore, through which water was to pass from the Ditch into the New River. These pipes presumably replaced the 20" pipe authorised in 1618.³⁰ The potential for argument is obvious, and was soon to erupt. (see 10.5).

Nevertheless the burgesses between 1656 and 1659 had succeeded in substantially upgrading the navigation so that the largest barges using the river could come up to Hertford. Their pride is suggested by the expenses claimed by the Mayor in November 1658:

Laid out for 3 daies extraordinary at London with the Steward about the water, & addresses to the Protector, for goinge too & fro by water, my expences & passage down

Passenger traffic on the river was rare. For the Mayor to travel in ceremony was unique.³¹

The effect of these efforts is illustrated by the fact that in January 1657 John Hide was admitted as a freeman in the 'art & misterie of Malting or to goe by water wth a barge', whilst in June 1658 Henry Stout, of the famous Quaker family, was given his liberty 'to trade in malts & coles'.³² Such admissions had not been recorded before.

The burgesses also built a wharf in Hartham Common, and made a turning point for the barges near the head of the navigation.³³ Further research might show other changes in land use along the river at this date, and development in the town to take advantage of the new opportunities.

The burgesses' success was achieved at some cost however. Voluntary contributions, rates and loans had been used to finance these improvements, and these latter may well have been the major reason why the borough finances were in such a parlous state by the end of the 1650s.

A loan of £50 had been raised from John Flower in 1658 to ease the financial problems. This loan was soon repaid, but another, for £63 12/-, was immediately raised from John Clarke in 1659. This sum was reduced to £55 in January 1662, but a bond for the remainder at 6% was renewed annually until 1670. In that year Clarke became Mayor, and the debt seems to have disappeared as part of the settlement of his mayoralty accounts. In addition the small loans raised from local inhabitants in June 1656 and April 1659 were not repaid until 1677-79.³⁴

Such problems were caused because there was little return from the improved navigation. Problems of maintenance soon arose, and were to be a major problem. In addition the evidence suggests that little use was made of the river between Hertford and Ware, an average of one or two barges a week (see 10.8). Expectations must surely have been higher, and the result hardly justifies the effort expended by the burgesses and townsmen. The former in particular were not prepared to continue the borough's financial commitment, and sought other means to preserve the improved navigation for the future, at no expense to the borough.

The nature of the available evidence does illustrate the important role of the burgesses and the town meetings, but provides little indication of the essential co-operation of Fanshawe and the New River Company, or of the necessary authorisation by a Commission of Sewers. One interesting feature is that subsequent events suggest that Fanshawe's co-operation may have been somewhat less than enthusiastic, and that he may have felt that the prevailing political climate left him little option but to agree to the burgesses' proposals. The Restoration gave him his chance of revenge.

10.4 Initial problems of maintenance, 1660-66

Major rebuilding of the two turnpikes at Hertford had been necessary in April 1659, yet in April 1660 a petition was submitted to the burgesses, complaining that the navigation would soon decay if proper care was not taken. To meet the costs of such maintenance the burgesses resolved to impose tolls for the use of the turnpikes.

Inhabitants of Hertford were to pay 6d, other barge owners 1/-, whilst Fanshawe's tenant at Ware Mills was permitted to pass toll free, in recognition of Fanshawe's assistance in opening the new route.³⁵ At first Thomas Pryor, possibly the miller at Dicker Mill, was appointed to collect the tolls, under the supervision of John King and Abraham Rutt, local traders and Quakers,³⁶ but then in May 1663 Edmund Harvey, a local woolcomber, was instructed to take over these responsibilities.³⁷

36. *Rutt was a Quaker ironmonger, King a Quaker grocer. Both issued their own farthing coins. That Pryor was most probably the miller is based on fact that in 1663 Andrews (owner of Dicker Mill)*

- and Pryor were paid £1 5/- for repairing the turnpikes. In addition Pryor was a common name amongst local millers:*
37. *Harvey was a woolcomber who became a freeman in 1665. In 1657 he had been responsible for taking care of the key to Cow Bridge, and in 1689 he and his son leased the Borough's fishing rights:*

Soon afterwards major problems arose. Complaints were made to a meeting of Hertford common councillors, a rare reference to such a body, that the turnpikes were 'to be cutt upp' on July 15. An express messenger was dispatched to seek the advice of the Borough Steward. On July 18 an agreement was signed with Harvey whereby he agreed to take out a lease on the turnpikes, to commence from September 1663. Then on July 27 the common councillors instructed the Mayor that he ensure that the lower turnpike 'be sett upp againe', and the Mayor's accounts show that 25/- was spent on repairs on July 29.³⁸

More evidence would be desirable, but that available does suggest conflict within the town over the future of the navigation, with the distinct possibility that the burgesses themselves were at first prepared to close it down. It should be emphasised that many of the burgesses responsible for improving the navigation the previous decade had been removed in September 1662. They were protestant dissenters unwilling to take communion in the established church or to subscribe to the oaths of allegiance and supremacy.³⁹

The lease to Harvey meant that the navigation was preserved, but at no expense to the borough, for the lease meant that Harvey took on all costs of maintenance in return for the tolls. To obtain his three year lease Harvey paid a fine of £3 and promised an annual rent of 1/-. In March 1666 Harvey surrendered the lease, paying 20/- for the privilege.⁴¹

By this date the lease was valueless, for the new route had become unusable. Fanshawe's revenge was that neither he nor his tenant had made any effort to repair or maintain the pound lock since it had been built in 1658. By late 1665 or early 1666 it was no longer of any use to the navigation, and a meeting between the burgesses and Fanshawe's son and heir brought no change.⁴²

The only alternative for the bargemen was to try and use Manifold Ditch once more, but this meant that the dams at the mouth of Manifold Ditch and at Chalk Island would have to be removed. Conflict with the New River Company was imminent, for although they might welcome the removal of the dam at the mouth of the Ditch they would oppose the removal of the dam at Chalk Island. The bargemen seem to have hesitated, for it was nearly a year after the decay of the pound lock before they tried to re-open Manifold Ditch.

10.5 The row with the New River Company

On 11 September 1667 the Company complained to the Privy Council that two bargemen, Edward Hopkins of Waltham Abbey and Edward Chapman of Ware, 'haveing

gotten to their assistance some Boyes of Ware' had pulled down the dam at Chalk Island, to the disadvantage, they claimed, of both the New River and the navigation.⁴³

Hopkins and Chapman were brought before the Privy Council the following week, but a proper discussion of the conflict was postponed until all parties to the dispute were in attendance. This was not achieved until 16 October.⁴⁴

In the intervening period the bargemen continued their offensive. On 25 September 'a Jury Impannelled by the Commissioners of Sewers, for the County of Hertford' presented that the dam at Chalk Island was a 'Common Nuisance', and that it had only stood two years, not since 1658 as the Company claimed. The commissioners accepted these findings, and so the destruction of the dam by the bargemen was thus justified after the event.⁴⁵

When the dispute finally came before the Privy Council, the commissioners' decision was confirmed, and the Company's complaints were dismissed. However the Council took the precaution of appointing a committee, all of whose members were already Commissioners of Sewers, to investigate the problems further.⁴⁶

The bargemen had thus successfully re-opened Manifold Ditch, navigation between Hertford and Ware could resume. The Company cannot have been satisfied with the decision of the Privy Council, but they were able to present their case to the committee, and this case was strengthened by the shortage of water for rebuilding London after the Great Fire. Over the ensuing years the committee searched for a solution which would allow the bargemen to continue to use Manifold Ditch, but which would also maintain and increase the supply of water to the Company.

In their first year the committee held several meetings, with some other Commissioners of Sewers in attendance, and tried several experiments to check the effect of the Company's intake of water on the navigation. They were unable to produce a final report, for the necessary quorum of five had not been obtained. Therefore five new members were added in July 1668.⁴⁷

One of the solutions the committee tried was that in March 1668 they ordered that near Chalk Island two 'jetties' be built from the bankside into the stream, one on each side of the ditch. A gap of 14' was left between the two jetties, through which the barges were to pass. These jetties thus acted as partial dams which increased the depth of the water near the Company's intake and thus increased that intake, but which did not impede the navigation.

The Company were at first satisfied with these arrangements, but then they argued that the ditch below the jetties had been scoured and cleansed to such an extent that the water flowed down the ditch so rapidly that the level of water fell once more, and thus invalidated the committee's experiment.

The Company then, without permission, built a sill along the bed of the ditch between the two jetties. Such a sill could have been built solely to strengthen the structures, as the Company claimed, but the fact that 'mortis holes' were drilled in the sill suggests otherwise. Their proper purpose must have been to insert boards in the gap and thus complete the dam.

If the Company and the bargemen had been prepared to co-operate, even these new developments may have been acceptable. The Company's dam could have operated as a normal flash lock to assist the navigation along Manifold Ditch. However, the dispute was still about the actual loss of water from the river Lea and its effect on the whole navigation, neither party was amenable to compromise.

In July 1669 a Commission of Sewers ordered that the sill be removed, only to relent the following month and decree that the sill could be put back in place as long as no mortice holes were drilled in it. Such decisions suggest conflict between the committee and the commission, and thus between the commissioners themselves, but no accurate portrayal of this friction can be obtained.⁴⁸

A further element intruded into this dispute. In April 1669 Henry Dunstar and several other local inhabitants made a breach in the banks of the New River. The Company complained that so much water escaped that 'it will Draw the whole River Drye'. Subsequent litigation before the Court of Chancery shows that Dunstar was arguing that the Company had encroached on his property by widening the ditch which conveyed water from Manifold Ditch to the New River, and there was even an accusation that he was demanding £5000 for 2 acres of land lost to the Company.

However it is clear that Dunstar was also motivated by his support for and support from the bargemen. He himself argued that the navigation had 'beene obstructed soe that Boates cannot passe in Somer tyme as formerly they had done for want of water'. Surely an irrelevancy in a property dispute, and at least one of his accomplices, William Bustard, described as either a fisherman or a sack carrier, was to be involved in the riots at Ware later that year.

The immediate outcome of Dunstar's action was that the Commissioners of Sewers ordered that the breach be repaired and that Dunstar be fined. Soon afterwards the Privy Council issued a proclamation making it an offence to breach the banks of the New River, the first such proclamation to be made.⁴⁹

This particular dispute shows that after three years work the committee and the Commissioners of Sewers had still not resolved the conflict between the New River Company and the bargemen. Indeed the Company obviously felt that some of the commissioners were not attempting to resolve the problem. They took the dispute back to the Privy Council.

In August 1669 they complained to the Council that the ditch below their jetties had been cleansed so thoroughly that the level of water in the ditch had sunk so low that little water

was flowing out of the Lea through their pipes. Since they obviously felt that the Hertfordshire commissioners and juries were biased towards the interests of the bargemen they asked that those commissioners residing in Middlesex be summoned to take a view of the existing arrangements. This request was granted and all parties to the dispute prepared for a full debate before the Privy Council ⁵⁰.

This debate took place on 22 September 1669. Two reports were read, one submitted by the committee, the other from 15 Middlesex commissioners. Witnesses were called, and counsel submitted cases on behalf of the Company, the bargemen, and the City of London who were supporting the bargemen rather than the Company. At the end the Privy Council decreed:

That the Governor and Company of the New River do take away their Great Pipes now lying in the River Lee, And in stead thereof do lay two lesser Pipes the One of Eight, and the other of Six Inches Bore, at or neare the Place where the Great Pipes lye, and so to place and Contrive them that they may be Constantly served with Watter to supply the New River, And if upon Tryall, it shall be found that the Water in the River Lee will not alwayes rise high enough to fill the said Pipes, that then the said Governor and Company may and they are hereby Authorised to sett up, and use a Turen Pike Jettie or some other devise to rayse + force the Water to the Pipes whereby they may be rendred most usefull to the New River Yet so as may not cause Inundation of the Meadow Grounds adjoining nor retard, or, indanger the Vessells that shall Passe that way

These decisions were confirmed on 9 November by the Commissioners of Sewers, who at the same time authorised the Company to erect the turnpike that the Council had said could be built if after trial it was found that insufficient water entered the pipes. Finally on 1 December the Royal Assent was granted to further strengthen the legal authority of this solution. ⁵¹

The bargemen were furious, and resorted to violence. On 17 November 1669 the Privy Council received reports that the Company's turnpike had been pulled down and burnt, and that the orders of the Commissioners of Sewers which had been displayed in the market place at Ware had been pulled down and torn in pieces. A messenger was sent to arrest the culprits, all of whom were known to the Council.

The messenger, Samuel Botteley, arrested three of them, but was then set upon and beaten up by 'at least Sixty Men armed with ye Guns, Clubs and Poles with a multitude of Women with Spits & such other Weapons'. Botteley retired from the fray without his prisoners.

This time the Privy Council was furious. They issued a warrant to the High Sheriff of Hertford, Sir Thomas Byde, to arrest twelve men named in their warrant before 1 December, and asked the Attorney General to prepare a case to see whether the townsmen of Ware could be charged for permitting riots and for failing to assist the King's messenger.

This action quieted the opposition. One of the culprits, Isaac Allis, a bargemaster of Ware, had attended the Privy Council the day the reports of the riot had been heard, the remainder were produced the following week. All were remanded in custody, but were released during the ensuing three weeks, having first begged pardon and given assurances for good behaviour thereafter.⁵² No further action was taken.

This depth of feeling in Ware was an expression of the importance of the navigation to the town and of the resentment felt about the New River Company tapping the Lea. Bargemen were involved in disputes at this date with millers and weir-keepers further downstream (see 11.2) and obviously felt that this loss of water from the river harmed their interests. They must have been hoping that the Company's rights to tap the Lea were either rescinded or curtailed, the Privy Council decision dashed those hopes.

Meanwhile other developments took place with regard to the navigation between Hertford and Ware. The Privy Council decision of September had been based on the assumption that Manifold Ditch would be the navigable channel, yet by 11 October 1669 an agreement had been signed to re-open the new route that had been opened in 1658.⁵³ Thus the decision of the Commissioners of Sewers on 9 November that the Company could erect a turnpike across Manifold Ditch had no effect on the navigation between the two towns.

This development was possible because Sir Thomas Fanshawe, 1st Lord Viscount Fanshawe, who had allowed this route to decay, had died in March 1665, and his heir, Sir Thomas Fanshawe, 2nd Lord Viscount, sold the manor of Ware in 1668 to a London brewer, Sir Thomas Byde. Soon after the purchase the burgesses met Byde and obviously found him co-operative. Byde was to forge close links with the borough, becoming a freeman in 1669, and representing them in Parliament from 1673 to 1690.⁵⁴

The agreement between the burgesses and Byde to re-open the new route was identical to the agreement which had been made in 1658, except that the toll for the use of the pound lock next to Ware Mills was increased from 6d to 1/-. It was also agreed to get the agreement confirmed by a Commission of Sewers, and it would seem reasonable to assume that this confirmation was obtained on 9 November, although there is no evidence of this. Thereafter the new route remained the sole navigable channel between the two towns. Even canalisation after 1767 made only minor alterations to the channel which bypassed Ware Mills, and none to the other parts of the new route. Problems after 1669 were with maintaining the route, not with the route itself.

The bargemen still made efforts to rescind the right of the Company to tap the Lea. In February 1670 inhabitants of Hertford and Ware petitioned the London aldermen, who then petitioned the Privy Council on their behalf. This petition complained that the Company took so much water out of the Lea that the river was 'Shallow and insufficient for Navigation and the Cariage of Provisions to the City of London'. The Council instructed Sir Robert Murray, Sir Bernard de Gomme and Christopher Wren to take a

survey of the Lea and the New River, taking with them three persons chosen by the Company and three by the City of London.⁵⁵

This survey dismissed the contention that the Company took too much water out of the Lea. After 'several sure and well grounded experiments by measuring the velocities and comparing the quantities of both streams' it was concluded that 'the pipes drew off from the navigable River about one part of thirty ... a thing very little prejudicial to Navigation and which could not abate the River half an inch'. It was felt it was the millers further downstream who were causing the real problems, not the New River Company.⁵⁶

Such a report must have dampened any hopes the bargemen had of redress, but not quite. In both March and October 1670 presentments were made at assizes and county sessions that the dam erected by the New River Company in Manifold Ditch was a nuisance which diverted water out of the navigable river, but no further action was taken.⁵⁷

Then in August 1672, as part of the settlement of the case between Dunstar and the Company, the Court of Chancery issued a decree which forever preserved the link between Manifold Ditch and the New River, and once more confirmed the Privy Council decisions of September 1669.⁵⁸ The bargemen's assault on the New River Company had failed.

One unanswered query about these disputes must be just why the City of London chose to wholeheartedly support the bargemen rather than the New River Company. The aldermen presented the bargemen's case to the Privy Council in 1669 and in 1670, arguing always that the Lea was an important artery supplying the capital's markets.⁵⁹ In the aftermath of the Fire, supplies of water from the New River were very important.⁶⁰ Yet the City consistently opposed the Company in these disputes.

60. *Several conduits were destroyed, as was London Bridge Waterworks. Some conduits were not rebuilt, and the restoration of the waterworks at London Bridge were treated as a priority*

ADDENDA

In the closing paragraph of section 10.5 above, an unanswered query was raised as to why the City of London chose to support the Lea bargemen in their arguments with the New River Company, even though the supply of water from the latter was so important to the capital. In fact W.G. Bell's 'The Great Fire of London in 1666' recounts a story told by Bishop Burnet which might provide some hint about the City's attitude, even though the inconsistencies in Burnet's story, which have been emphasised by historians, means that the query is still unanswered.

In his memoirs Burnet made the following comments on the behaviour of the New River Company during the Great Fire, relying on information given to him by Doctor Lloyd and the Countess of Clarendon:

The constant order of that matter was to set all the pipes a running on Saturday night, that so the cisterns might be all full by Sunday morning, there being a more

than ordinary consumption of water on that day. There was one Grant, a papist, under whose name Sir William Petty published his observations on the bills of mortality: he had some time before applied himself to Lloyd, who had great credit with the countess of Clarendon, and said, he could raise that estate considerably, if she would make him a trustee for her. His schemes were probable: and he was made one of the board that governed that matter: and by that he had a right to come, as oft as he pleased, to view their works at Islington. He went thither the Saturday before the fire broke out, and called for the key of the place where the heads of the pipes were, and turned all the cocks that were then open, and stopped the water, and went away, and carried the keys with him. So when the fire broke out next morning, they opened the pipes in the streets to find water, but there was none. And some hours were lost in sending to Islington, where the door was to be broke open, and the cocks turned. And it was long before the water got to London. Grant indeed denied that he had turned the cocks. But the officer of the works affirmed that he had, according to order, set them all a running, and that no person had got the keys from him, besides Grant; who confessed he had carried away the keys, but pretended he did it without design

William Maitland, who had access to records of the New River Company destroyed in a fire in 1769, pointed out that Grant was not admitted to the Company until 23 days after the Great Fire, and that the Clarendon family were not associated with the New River until 1670.

Besides these two comments, there must be further suspicion about the accuracy of this story. If it was true, it is incredible that such a story never emerged in the investigations and discussions that followed such a disaster. That it did not does suggest that the story was one of several papist rumours associated with the Great Fire.

Yet the fact that the supplies of water from the New River had not prevented the spread of the fire, whether justified or not, might provide some explanation as to why the City aldermen were so unsympathetic to the demands of the Company when they tried to secure their supplies of water from the Lea in the years immediately following the fire.

Bishop Burnet, History of His Own Time (6 vols, Oxford, 2nd ed, 1833), i. 423-25; *Maitland, History of London* (2 vols, London, 1756), i. 435-36; *W.G. Bell, The Great Fire of London in 1666* (London, 1923 edition) 34-35, 73, 345-46.

10.6 Maintaining the improved navigation, 1670-1730

For the next sixty years this improved navigation between Hertford and Ware sufficed. There were problems of maintenance, there were disagreements between the various parties, but these were always overcome and settled. There was no major interruption of the navigation, and no evidence of any initiative to make further improvements.

There was no overall policy of maintenance, it was just that separate short sections of this stretch of the river were the responsibility of different parties, and these parties accepted

their responsibilities for maintenance. From the evidence that survives three main elements can be discerned. The need to maintain the two turnpikes at Hertford and preserve the river down to the end of Hartham Common, the particular responsibility of the borough of Hertford; the need to maintain the pound lock at Ware Mills and the navigable condition of the head stream, the responsibility of the miller; and the need to maintain some sort of truce with the New River Company.

There were other elements about which no evidence now remains. For instance it is not known what part was played by Commissioners of Sewers. There is almost no reference to their involvement above Ware after 1670, and after 1695 such bodies had no jurisdiction over this stretch of the river anyway. Similarly nothing can be said about the private fishing weir, Constants Weir, except that it existed and must at times have provided an additional flash to help barges pass down into the head stream of Ware Mills. The borough of Hertford retained a particular interest in the navigation between Hertford Bridge and the end of Hartham Common, but they continued the policy that had first emerged in the 1660s. They were prepared to ensure that it was maintained, but they were not prepared to accept any financial responsibility or commitment themselves. Whenever major repairs were needed they acted as a forum where initiatives could be debated. At other periods they preferred to lease the turnpikes and oblige the lessees to maintain the navigation.

Soon after the new route had been re-opened the turnpikes were let for 11/- a year to the miller at Dicker Mill, Thomas Harlow.⁶¹ Such arrangements might be adequate for ensuring normal maintenance, but if a major rebuilding of the turnpikes was envisaged, other initiatives were necessary. Such an initiative emerged in 1672.

In that year the inhabitants of Hertford submitted a series of proposals to the Mayor. They suggested that a voluntary collection be made in the town, and that the receipts of this collection and the income from the tolls collected at the turnpikes should be used to rebuild the two turnpikes, to scour and cleanse the river, and to extend the navigation part way down the head stream of Dicker Mill so that goods could be landed at Butchery Green. They wanted responsible persons appointed to supervise the collection of money, and a committee, responsible to the borough, to supervise the repairs and future maintenance.⁶²

The burgesses welcomed the initiative, but were careful not to saddle themselves with any extra responsibility. They gave permission for a voluntary collection, and set up a committee to survey the navigation and report what repairs and improvements were necessary. However they did not accept that the repairs should be supervised by a committee responsible to them, suggesting instead that it should be independent, although they would appoint three members themselves, the other three being appointed by the bargemen.⁶³

Despite this encouraging exchange, no major rebuilding was undertaken until the end of the decade. Meanwhile the navigation continued to decay, but never to the extent that it became impassable.

In May 1674 a survey was ordered after reports were received that the banks were decaying, and in June 1675 council minutes noted that a debate on the turnpikes should be postponed for a further month. All that happened at this date however was that Richard Martin, a Quaker, and John Mathews, the miller at Dicker Mill were appointed to take care of the navigation for a year with a brief to carry out minor repairs to the banks and the turnpikes. To help them the toll for using the turnpikes was fixed at 1/- for everyone, thus suspending the privilege previously enjoyed by barge-owning inhabitants. These arrangements lasted until the end of the decade.⁶⁴

Then in 1679 the initiative to rebuild the turnpikes re-emerged, following closely the methods of administration first suggested in 1672. In April 1679 Thomas Webb, most probably a Quaker,⁶⁵ was appointed to collect the tolls, and a committee of six, four of whom were Quakers and two were burgesses, to survey the river and supervise the repairs.⁶⁶ In September 1680 these arrangements were altered. Benjamin Jones, Richard Martin, Nicholas Lucas and William Guise were appointed as 'Surveyors of the Navigation of this Burrough, and Receivers of the Money subscribed to & to be 65. subscribed towards ye Same'.⁶⁷

65. *In 1700 a Thomas Webb married Mary Martin, daughter of Richard Martin. It is possible that this was the son of the collector:*

66. *Quakers:- Richard Martin, Henry Stout, Nicholas Lucas, Richard Thomas. Burgesses: Edward Lawrence, Benjamin Jones.*

67. *Guise was a leading congregationalist.*

It was this group which carried out the necessary major repairs. By the end of 1680 the turnpikes had been rebuilt and the banks repaired. Altogether £39 1s. had been obtained from the voluntary collection and the tolls, whilst £37 17s 3d had been spent. The surplus was expended on minor repairs in 1681 and 1682.⁶⁸

The task completed, the aldermen⁶⁹ appointed Jones and Martin as 'Overseers of the River and Navigation', responsible for future maintenance, and Mathews resumed his collection of the tolls, presenting his accounts until September 1684 when he vacated Dicker Mill.⁷⁰

69. *In November 1680 Hertford obtained a new charter. This charter meant the appearance of aldermen in place of burgesses.*

In view of the leading role played by Hertford Quakers in these events, it can be little coincidence that the proposals were first submitted to the Mayor on 20 March 1672, only five days after Charles' Declaration of Indulgence promised them some respite from persecution, and indeed freed several of them from imprisonment.

Furthermore postponement of the measures until the end of the decade may be explained by the uncertainty created by the fact that Parliament opposed Charles' policy, and cancelled the Declaration of Indulgence in 1673. By the end of the decade Parliament had become more favourably inclined towards Dissenters, and the Quakers were able to take advantage of this to resume their efforts to repair the navigation above Ware.⁷¹

A gap in the evidence means that after 1684 the position is not clear for several years. In November 1693 and March 1695 the aldermen made surveys after complaints of decay, but only minor repairs were made.⁷²

Then in 1697 Thomas Webb, a Quaker maltster, probably the son of the erstwhile collector, offered to lease the navigation and the borough's fishing rights. Initially the aldermen offered Webb £6 towards repairs if he would raise the rest by voluntary contribution, but eventually they paid him £11. After these repairs had been completed, about which there are no details, Webb and Jonathan Smith, the miller at Dicker Mill, took out a 21 year lease on the navigation down to the end of Hartham Common at 10/- a year.⁷³

73. *The fishing rights were not included in the final lease.*

When this lease expired in 1720 a new lease was granted on the same terms to John Ward of Hackney, proprietor of Hertford waterworks. These arrangements sufficed until the 1730s, when Ward's financial problems forced the aldermen to first repossess the turnpikes and then the waterworks.⁷⁴

These two leases meant that the aldermen maintained their policy of avoiding financial responsibility for maintaining the navigation at Hertford. This policy was successful because traders in the town were determined to ensure that the navigation was preserved, at their own expense if necessary.

Another factor in the success of this policy was that for most of the period the miller at Dicker Mill controlled the operation of the turnpikes. This was sensible for all parties. The upper turnpike controlled both the flow of water down the navigable river and down the head stream of Dicker Mill, whilst the lower turnpike could be used in conjunction with a flash from the back waters of the mill if necessary. There was a possibility of conflict of interest, but if there was ever, it was never serious enough to be minuted in the borough records.

This equilibrium could have been upset in 1708 when George Osmond and a Mr Hudson set up a waterworks and a paper mill in Hartham Common, next to the upper turnpike. In his lease Osmond promised to shut his flood gates whenever the turnpike was to provide a flash for the barges. In 1720 when the owner of the waterworks took over the leases to the turnpikes, special provisions were made to prevent any conflict. The aldermen appointed a committee specifically to ensure that the turnpikes were used properly by all parties.

No evidence of any such conflict remains, except that in 1711 rows over commoners' rights in Hartham Common, and in 1725 rows over the suitability of Marmaduke Arlington as Borough Recorder, both included comments that the waterworks and the paper mill had harmed the navigation. No response was forthcoming.

With regard to the navigation below the end of Hartham Common the agreement with Byde in 1669 specified that he was responsible for maintaining the pound lock next to Ware Mills. Thereafter lessees of the mill accepted this responsibility as a condition of their lease.⁷⁶ There is no evidence that the lock ever fell into serious disrepair ever again.

There was conflict over another clause of the 1669 agreement, namely the responsibility of the burgesses to maintain the dam at the mouth of Manifold Ditch. The height of this dam had been specified by the Commissioners of Sewers to allow water into the Ditch to serve the New River, but both the miller and the bargemen wanted it higher to reduce any loss of water from the head stream.

In 1672 the bargemen suggested that the miller should take over responsibility for maintaining this dam, so that he could heighten it and allow only enough water into the Ditch to supply it with water for cattle. The burgesses could not agree to such a flagrant disregard of the rights of the Company, and would only agree to such a transfer of responsibility if the decrees of the commissioners were included in any agreement.⁷⁷

It may be resentment on this score which led the Ware miller, Thomas Harte, to demand a toll of 2/6 rather than the agreed 1/- in July 1674. Whatever the reason, the burgesses were angry, and sent two of their number to remonstrate with Byde. The outcome was a new agreement whereby all barges of freemen and inhabitants of Hertford could pass through the pound lock toll free. It can be noted that Byde had just been elected as Borough M.P., and this toll had been specifically criticised as too high by Wren and Murray in 1670.⁷⁸

Then in June 1676 several employees of the New River Company pulled down the dam at the mouth of Manifold Ditch. The burgesses resolved to bring legal action, but this did not satisfy Byde. He instructed the miller at Ware, now Francis Pryor, a Quaker, to demand a toll of 1/6 until the dam was rebuilt. The burgesses responded angrily, and threatened to open negotiations with the Company to re-open the old routes down Black or Manifold Ditch if Byde or Pryor did not reply within 14 days. Negotiations did begin, and the agreements of 1669 and 1674 were once more confirmed, and this time submitted to a Commission of Sewers for their approval.⁷⁹ The dam was presumably rebuilt.

There matters rested until after the death of Byde in January 1704. Then in 1707 Thomas Byde, the grandson and heir, instructed the miller, still Pryor, to demand a toll of 1/- once more. The aldermen responded by threatening to re-open the old routes once more.⁸⁰

Byde replied by letter. He noted the 6d toll due to Fanshawe, but not the 1/- due to his grandfather before 1674. He argued that the new route benefitted the bargemen as much as the miller, and that it would be difficult to re-open the old routes. He concluded by offering to allow barges to pass toll free except on one day a year when he would demand 6d merely to protect his property rights. In return he wanted the aldermen to ensure that the mouths of Manifold Ditch and Black Ditch remained blocked up, and agree to pay him or his miller 10/- every day they were not.⁸¹

Subsequent discussion and agreement are not recorded, and there is a distinct possibility that the two sides did not settle, for in September 1725 it is recorded that a barge, as a matter of course, paid a toll of 1/6 at the pound lock.⁸²

The reason for Byde's demands in 1707 are nowhere noted, but it may be that they were a response to alterations being implemented by the New River Company at this date, alterations which threatened to reduce the supply of water to his mills.

10.7 Encroachment by the New River Company

It is difficult to establish any precise sequence of events, but it can be shown that by the 1730s the New River Company had substantially increased the amount of water they took from the Lea far beyond that authorised by the Privy Council in September 1669, and that they had done this without authorisation.

In August 1735 Dr Desaguliers⁶³ estimated that the Company were taking between 2100 and 2400 Tuns* of water an hour from the Lea. He contrasted this with 200 or 250 Tuns an hour which he thought the 1669 rulings allowed. Later he reduced this last estimate to 90 Tuns an hour.⁸⁴

83. *John Theophilus Desaguliers was the son of a protestant refugee, who left France after the Revocation of the Edict of Nantes in 1685. He was a member of the Royal Society, and was known for giving lectures on science to a general audience. He held a living in Essex, and was a prominent freemason. In 1720 he obtained a patent for an invention for the application of steam to various manufacturing processes, such as drying malt and distilling. He also made an improved engine for raising water, and was known as a leading expert on the measurement of water flow*

No proper explanation was ever provided as to how this increase had arisen, but it is obvious that by 1739 the pipes were no longer there, and had not been for some time. Neither the bargemen nor the New River Company ever mentioned that the increase had been discussed and authorised, indeed the Company evaded the whole question.⁸⁵

The bargemen had made unspecified complaints about the abuses committed by the Company in 1681,⁸⁶ but there is evidence to suggest that they most probably removed the pipes some time during the first decade of the eighteenth century.

There was a major expansion of the Company's activities about 1708.⁸⁷ Such expansion and change would explain Byde's fears in 1707. In addition, it was about this date, bargemen recalled, that the Company had purchased land on either side of Manifold Ditch, and had erected a new turnpike, and a brick arch over their intake. An ideal opportunity to remove the pipes. Also, no Commission of Sewers was in existence at this date, so the bargemen would have less opportunity for immediate redress.⁸⁸

Surprisingly there is no evidence of opposition to this illegal encroachment by the Company. No complaints were made to the Commission of Sewers appointed in 1719,

although other encroachments made the previous decades were complained of. The only complaint on record is that in 1721 bargemen submitted a petition to Parliament complaining that the Company had arbitrarily erected a turnpike to divert water out of the Lea. This particular complaint is neither specific nor accurate, and indeed was part of a concerted campaign to oppose a bill to supply London with water from streams north of the capital rather than a proper attempt to solve any dispute with the Company.⁸⁹

Indeed throughout the 1730s when the bargemen were seriously considering how to improve the navigation, they made no complaint about the Company's increased intake of water. Rather than try to rescind or limit the Company's rights to the water, as they had done during the 1660s, they chose instead to formalise the encroachment, and obtain a rent from the Company for the water with which to improve the state of the navigation (see Chapter 14).

10.8 Use made of the river

TABLE 4: BARGES USING HERTFORD TURNPIKES

Period	Toll collected			No. of barges	Comments
1673	£1	10s	6d	42	A
1674	£1	8s	3d	42	A
29/9/1693-28/9/1694	£4	1s	-d	81(est)	B
29/9/1694-28/9/1695	£4	3s	-d	83(est)	B
1737	£5	7s	-d	85 barges & 84 boats	C,D
1738	£4	2s	6d	53 barges & 59 boats	C,D
1739	£3	13s	6d	50 barges & 47 boats	C,D
29/9/1757-29/9/1758	£5	7s	-d	107	E
29/9/1758-28/9/1759	£5	6s	-d	106	E
29/9/1759-28/9/1760	£5	19s	-d	119	E
29/9/1760-28/9/1761	£5	1s	-d	101	E
29/9/1761-28/9/1762	£4	15s	-d	95	E
29/9/1762-28/9/1763	£3	15s	-d	75	E
29/9/1763-28/9/1764	£3	5s	-d	65	E
29/9/1764-28/9/1765	£2	18s	-d	58	E
29/9/1765-28/9/1766	£3	11s	-d	71	E

A: Three tolls applicable:- 6d,9d,1/

B: Assume one toll applicable:- 1/

C: Two tolls applicable:- barges 1/-, boats 6d. (sizes not specified)

D: Between 1737-1739 miller at Ware Park Mills carried wheat from Hertford market to his mills 20 times toll-free

E: Based on toll of 1/- collected at Constants Weir

Sources: HRO, BHR, Vol 20 fos.622-23, Vol 39 fos.65,86-7, Vol 48 fo.42

Any hopes that were entertained during the Interregnum (1649-1660) that Hertford could rival Ware if the navigation was improved were not to be realized. Table 4 above shows just how few barges used this stretch of the river, especially in the years just after it had first been improved.

In 1728 Nathaniel Salmon emphasised this point, commenting that the 'Lea is Navigable as high as Hertford; but Ware is the Place from whence and to which the Water-Carriage is most used'.⁹⁰ No data is available about the numbers of barges travelling to and from Ware, so no accurate comparison is possible.

TABLE 5 : MONTHLY MOVEMENT OF BARGES AT HERTFORD

	1672	1673	1674	1675
January		4	3	4
February		2	1	5
March		3	2	5
April		2	9	5
May		8	3	4
June		2	4	6
July		6	1**	7
August	7*	2	2	
September	3	5	2	
October	5	-	7	
November	7	2	6	
December	2	6	2	

* 7 recorded on 29th & 30th, possibly up to 6 more earlier in month, although the six could have been spread over a longer period

** Written as 7/6 but in sequence for 7/7

Source:- HRO, BHR Vol 48 fo.42

	1737		1738		1739	
	Boats	Barges	Boats	Barges	Boats	Barges
January	7	8	6	11	3	3
February	5	6	8	3	4	3
March	6	3	5	2	3	6
April	5	4	3	3	4	4
May	7	5	1	3	4	3
June	5	2	4	4	5	2

July	6	3	5	2	2	5
August	9	3	4	3	2	4
September	11	14	5	3	4	4
October	6	24	7	5	5	8
November	11	8	6	5	5	3
December	6	5	5	9	6	5

The difference between boats and barges is not recorded; presumably the former had a smaller capacity.

Source:- HRO, BHR Vol 39 fo.65

For some of the years a monthly breakdown of toll income is obtainable. These are reproduced above in Table 5. They do show a tendency for the river to be busier in the months after the harvest, but this is not pronounced, and more impressive is the fact that the river was used throughout the year. Shortages of water in summer and bad weather in winter were not severe enough to close the navigation.

For the period between the summer of 1672 and the summer of 1675 the names of the barge owners are also recorded. These show that it was Hertford residents who made most use of the river above Ware, but barge owners from Ware, Stanstead and elsewhere were not uncommon visitors to the town.

The most regular users were Henry Stout, a Quaker maltster who made 64 trips during the period, Richard Thomas, a Quaker brewer, who made 15 trips and William Coxe, a dissenting maltster. All were residents and freemen of Hertford. On one occasion each, both Stout and Coxe took two barges downstream, with their wives possibly in charge of the second barge. There were other regular visitors who were not inhabitants of Hertford. A Mr Wilson made 10 trips, as did Thomas Burr, the Quaker maltster of Ware, and a John Perrot made 9.⁹¹

91. *Henry Stout: a leading Hertford Quaker, whose second wife, Mary Saunders, had been in attendance on Cromwell's wife. He became a freeman of Hertford in 1658 'to trade in Malt & Coles'. In 1670s was closely involved in efforts to preserve the navigation above Ware, but did not contribute towards its initial improvement in 1650s. On his death in 1695 left his business estate, including barges, to his daughter Sarah, having already made provision for his sons. Her death in 1699 was the subject of a famous murder trial.*

Richard Thomas: A Quaker who had fought against Charles, and was imprisoned during Monmouth's rebellion in 1685 as he was regarded as a disaffected person. Imprisoned on several other occasions for non-payment of tythes. Was probably the coronett Thomas who lent money to improve the river above Ware in 1658. He jointly owned ,a barge with Thomas Burr, a Ware Quaker.

William Coxe: a maltster who was based at the Castle Inn, Hertford, at least between 1668 and 1672.

Mr Wilson probably William Wilson of Ware, described as a bargemaster in his will of 1684. Left all his property to his son William, who on his death left a half share in one barge to his widow, Sarah.

Thomas Burr: a prominent Ware Quaker, who married the daughter of Richard Martin, a Hertford Quaker. Jointly owned a barge with Richard Thomas a Hertford Quaker. His brother William was also a maltster, who became a bankrupt during the 1690s.

John Perrot(Parratt): a Ware maltster who owned the Crown Inn between 1667 and 1688, and had a half share in the Talbot Inn at Great Amwell after 1682

NOTES TO CHAPTER TEN

1. HRO, BHR Vol 5 fos.86-106; Vol 20 fo.323; Vol 39 fos.1-2.
2. Figure 6: Bodl. Gough, Hertford Papers, 1(12); Figure 7: HRO, BHR Vol. 39 fo.192.
3. HRO, BHR Vol 20 fos.123-24,135,138,142,144,172-74, 194-95,208,322-24,31. See also Chapter 9 fn. 9. The Hertford historian, R.T. Andrews, makes the following comments about rights along the river:-'If we consulted the Grant to the Corporation(1627)...without looking to the Survey(1621) we might suppose that that part of the River Lea ... were conveyed by that Grant to the Corporation; but when we look to the Survey and to the Grant to the Earl of Salisbury(1630) it would seem that no part of the River Lea was conveyed to the Corporation but that it was granted to the Earl'. However 'It is probable that both the Corporation & the Inhabitants considered that that part of the River ... became the property of the Corporation under the Grant. It is evident it was felt by all that it was to the advantage & convenience of the Borough that it should be so & that the Corporation, with the concurrence of the Inhabitants, acted as though it were so': HRO, BHR Vol 4 fos.90,341.
4. Early history of the New River has been told by the following, but none have dealt in detail with the effects of the scheme on the Lea: B. Rudden, *The New River*; J.W. Gough, *Sir Hugh Myddelton: Entrepreneur and Engineer*(Oxford,1964); G.C. Berry, *Sir Hugh Myddleton and the New River*', *Transactions of the Honourable Society of Cymmrodorion* for 1956, 17-46.
5. Hatfield House, CP 184.50. Signature is E. Colthurst not J. Colthurst as calendared: *Hist. Mss. Com.*, 12, Salisbury, p.243.
6. Bodl., Tanner MS. 98 fos. 48,49,113.
7. TWA, Box 79 no.17; GLRO, Acc 1953, Deeds Register Book B no.185; CSPD 1603-10,93.
8. CJ, i.261,262,265,309-13; 3 Jas. 1, c.18.
9. PRO, S.P. 14/78 no.106 (catalogued as 1614?:CSPD 1611-18,266). Another copy: Bodl., Tanner MS. 98 fo.49. In 1610 a bill to repeal the New River legislation was before Parliament, these documents must have been submitted then: _CJ, i.429,442,444, 445,450.
10. PRO, L.R. 2/28, 19 March 1614.

11. Ibid, 2/29, 17 June 1615.
12. PRO, C66/2180; C231/4 fo.141; L.R. 2/31, 5 September 1618; L.R. 2/32, 5 December 1618.
13. PRO, L.R. 2/31, 10 October 1618.
14. GLRO, Acc 1953, Deeds Register, Book C no.306.
15. PRO, L.R. 2/32, 17 June 1620.
16. Ibid, 2 December 1620, 16 December 1620; APC 1619-21, 8. See also 11.1.
17. HRO, BHR Vol 20 fos.238,246.
18. Ibid, fos.246,253,258,259-62,265,283,290-91,298-99,305-06,313-14,335-37: ibid, Vol 39 fo.1.
19. Fanshawe had mortgaged the manor of Ware and other properties to meet a series of debts, including one of £1560 to Oliver Butler(Boteler), the son of Fanshawe's brother-in-law, Sir William Boteler. Sir William died fighting for the King, Oliver fought for parliament: CJ, ii.760; CJ, iii.149,355; Cal. Cttee for Compounding,1864; CSPD 1644,305,375,468; CSPD Addenda 1625-49,668; PRO, C7 47/42; BL, Add. Mss. 27979; HRO, 70612,82949,82951; DNB; H.C. Fanshawe editor, The Memoirs of Lady Anne Fanshawe 1600-1672 (London, 1907),293-305.
20. HRO, BHR Vol 39 fo.2.
21. Ibid, Vol 20 fos.369-70.
22. Ibid. Members of committee:- Joseph Dalton, mayor(died 1658); Isaac Puller; Thomas Hawes; Captain William Minors; Edward Lawrence, senior (died March 1658); William Gardiner; John Clarke, committee treasurer; Joseph Bunker; Adlard Bowde; John King; John Pritchard. Those underlined refused oath of allegiance after Restoration.
23. Ibid, fo.370.
24. Ibid, fos.374,376. Sums lent were:- William Gardiner, mayor £3; Capt Mynors,'hee give 20/- rather than faile' £2; Mr Turnor £1; Mr Clarke £1; Mr Buncker £1 10s; Mr John Hyde £1 10/-; John Prichard £1; John King £1; John Heller 10/-; Geo Seelye £1; Geo Peach 6/-; Adlard Bowde £1; Edward Norris 10/-; John Field 10/-; William Carter £1; Henry Browne 5/-. In addition to those noted in fn.22, Turnor and Carter were also to refuse the oath of allegiance in 1662.

25. Ibid, fos.380,388,392,396-98.
26. Ibid, fos.383,385,386,388,392,396-98.
27. Ibid, fos.401,403-06. £10 raised by borrowing £1 from each of the following:- William Turnor, Mr. Gardiner, Mr Clarke, Mr Bunker, Mr Mason, Mr Bowde, John King, William Carter, Abraham Rutt, Coronett Thomas. These sources state that it was the middle turnpike which was damaged, but it was Hertford lower turnpike which suffered. There are several references to three turnpikes, the two turnpikes at Hertford and one other, which could be either the private fishing weir, Constants Weir, or the pound lock at Ware Mills
28. Ibid, fos.394,395,396-98.
29. Ibid, Vol 39 fo.21.
30. PRO, P.C. 2/60, 16 October 1667. A document dated c.1739 cites 15" and 9": BL, SPR L23 c6(37).
31. HRO, BHR Vol 20 fos.396-98.
32. Ibid, fos.381,393.
33. Ibid, fos.396-98.
34. Ibid, fos.395,396-98,406,412,414,419,429-30,434-35, 439-40,445-46,450-51,454-55,461-62,467-68,471-72,512, 528; ibid, Vol 48 fo.41.
35. Ibid, Vol 20 fos.401,498.
36. Rutt was a Quaker ironmonger, King a Quaker grocer. Both issued their own farthing coins: G.C. Williamson, editor, Trade Tokens issued in the Seventeenth Century (2 vols,New York,1970), i.314-15; V.A. Rowe, The First Hertford Quakers (Hertford,1970),53,55; HRO, BHR Vol 20 fo. 394; ERO , D/EAS 2081; PRO, PROB 4/13271; PROB 11/357(65). That Pryor was most probably the miller is based on fact that in 1663 Andrews (owner of Dicker Mill) and Pryor were paid £1 5/- for repairing the turnpikes. In addition Pryor was a common name amongst local millers:HRO, BHR Vol 20 fos.429-30.
37. HRO, Vol 20 fo.427. Harvey was a woolcomber who became a freeman in 1665. In 1657 he had been responsible for taking care of the key to Cow Bridge, and in 1689 he and his son leased the Borough's fishing rights: Ibid, fos.391,435,601; Ibid, Vol 39 fo.3.
38. HRO, BHR Vol 20 fos.427,429-30; ibid, Vol 39 fo.3.

39. HRO, BHR Vol 20 fo.418; see fn.22 and 24 above.
41. Ibid, fo.441.
42. Ibid, fos.445-46; HRO, A2575.
43. PRO, P.C. 2/59, 11 September 1667.
44. Ibid, 18 September 1667; P.C.*2/60, 16 October 1667.
45. Ibid, 16 October 1667.
46. Ibid.
47. Ibid, 29 July 1668.
48. Ibid, 28 August 1669; BL, L.R. 33 d 27, Extracts... relating to the River Lea between Hertford and Ware, 21
49. PRO, P.C. 2/61, 5 April 1669, 7 April 1669, 5 May 1669, 19 May 1669, 16 June 1669; C10 165/81; C10 168/95; HRO, BHR Vol 39 fos.12-20; GLRO, Ac_c 1953, Deeds Register Book C no 306: B. Rudden, The New River, 106-07.
50. PROS P.C. 2/61, 28 August 1669.
51. Ibid, 22 September 1669; P.C. 2/62, 1 December 1669; PRO, C225 Bundle 2 no.5A; S.P. 29/268 no.79; GLRO Acc 1953, Deeds Register Book C no.268; TWA, Box A6 no.20.
52. PRO, P.C. 2/62, 17 November 1669; 24 November 1669; 1 December 1669, 8 December 1669; 15 December 1669; 21 December 1669; W.J. Hardy, W. le Hardy, editors, Hertford County Records, 1.215-16.
53. HRO, BHR Vol 20 fo.458; Vol 39 fo.21.
54. Ibid, Vol 20 fo.458; BL, Add Mss. 27979; B.D. Henning, editor, The Commons 1660-1690, i.758-59. G.E. Cokayne, Complete Peerage (14 vols,London, 1910-59), v.255-56.
55. CLRO, Repertories, 75 fos.16,86; PRO, P.C. 2/62, 25 February 1670.
56. TWA, Box 86, Robert Mylne's Commonplace Book. The original report has not been found, but Mylne made a copy of it the following century, and this has survived.

57. PRO, ASS 35/111/1; W.J. Hardy, W. le Hardy, editors, Hertford County Records, i.222.
58. Guildhall Library, MS. 4883; TWA, Box 81 no.321; Box 81, Red Box, part; GLRO, Acc 1953, Deeds Register Book C no.306.
59. PRO, P.C. 2/61, 22 September 1669; P.C. 2/62, 25 February 1670.
60. Several conduits were destroyed, as was London Bridge Waterworks. Some conduits were not rebuilt, and the restoration of the waterworks at London Bridge were treated as a priority: T.F. Reddaway, *The Rebuilding of London after the Great Fire* (London,1940),98-99,282-83
61. This 11/- presumably included the 10/- due from the miller at Dicker Mill that had been agreed in 1658: HRO, BHR, Vol 20 fos.461,466.
62. HRO, BHR, Vol 39 fo.31.
63. Ibid, fo.22.
64. Ibid, Vol 20 fos.488,502,504,511,528; ibid, Vol 48 fos.43,45,47.
65. In 1700 a Thomas Webb married Mary Martin, daughter of Richard Martin. It is possible that this was the son of the collector: HRO, Q83 fo.157.
66. HRO, BHR Vol 20 fo.528. Quakers:- Richard Martin, Henry Stout, Nicholas Lucas, Richard Thomas. Burgesses: Edward Lawrence, Benjamin Jones.
67. Ibid, fo.540. Guise was a leading congregationalist: W. Urwick, *Nonconformity in Hertfordshire*(London, 1884),539,542-43
68. HRO, BHR Vol 20 fo.565; Vol 48 fo.54.
69. In November 1680 Hertford obtained a new charter. This charter meant the appearance of aldermen in place of burgesses: Sir Henry Chauncey, *Historical Antiquities of Hertfordshire*, i.500-503.
70. HRO, BHR Vol 20 fos.545,564,577,583-84; Vol 48 fo.56.
71. V.A. Rowe, *The First Hertford Quakers*; D. Ogg, *England in the Reign of Charles II* (Oxford,1984 paperback ed) , 354-55,365-68; W.C. Braithwaite, *The Second Period of Quakerism* (York,1979 ed), 55-115; N. Penney, editor, *Extracts from State Papers relating to Friends 1654 to 1672* (London ,1913),347
72. HRO, BHR Vol 20 fos.621,622-23,626.

73. Ibid, Vol 21 fos.8-9,28-29; Vol 39 fos.23-39. The fishing rights were not included in the final lease.
74. Ibid, Vol 21 fo.94; Vol 39 fos.32-41.
75. Ibid, Vol 33 fos.56-58; Vol 36 fos.581-85; Vol 39 fos.23-29.
76. Ibid, Vol 39 fo.21; HRO, 38056.
77. Ibid, Vol 39 fos.22,31.
78. Ibid, Vol 20 fo.490; B.D. Henning,editor, The Commons 1660-1690, i.758-59.
79. HRO, BHR Vol 20 fos.508-10; Vol 48 fo.47.
80. Ibid, Vol 21 fo.49.
81. BL, L.R. 33 d 27, Extracts ... relating to ... the River Lea between Hertford and Ware,10-11.
82. TWA, Box 81 no.354.
83. John Theophilus Desaguliers was the son of a protestant refugee, who left France after the Revocation of the Edict of Nantes in 1685. He was a member of the Royal Society, and was known for giving lectures on science to a general audience. He held a living in Essex, and was a prominent freemason. In 1720 he obtained a patent for an invention for the application of steam to various manufacturing processes, such as drying malt and distilling. He also made an improved engine for raising water, and was known as a leading expert on the measurement of water flow: DNB; C. Vallancey, *_A Treatise on Inland Navigation* (Dublin,1763),127
84. CJ, xxiii.99,294-95. For a discussion of the methods he used to measure the flow of water: J.T. Desaguliers *A Course of Experimental Philosophy* (2 vols,London, 1744- 5 , ii. 1
85. GLRO, 0/400/4; HRO, A2575.
86. PRO, P.C. 2/69, 14 July 1681.
87. H.W. Dickinson, *Water Supply of Greater London* (London, 1954),38.
88. HRO, A2575.

89. CJ, xix.587. see also Chapter 11 fn.66.
90. N. Salmon, *The History of Hertfordshire*(London,1728), 2.
91. Henry Stout: a leading Hertford Quaker, whose second wife, Mary Saunders, had been in attendance on Cromwell's wife. He became a freeman of Hertford in 1658 'to trade in Malt & Coles'. In 1670s was closely involved in efforts to preserve the navigation above Ware, but did not contribute towards its initial improvement in 1650s. On his death in 1695 left his business estate, including barges, to his daughter Sarah, having already made provision for his sons. Her death in 1699 was the subject of a famous murder trial.
- Richard Thomas: A Quaker who had fought against Charles, and was imprisoned during Monmouth's rebellion in 1685 as he was regarded as a disaffected person. Imprisoned on several other occasions for non-payment of tythes. Was probably the coronett Thomas who lent money to improve the river above Ware in 1658. He jointly owned ,a barge with Thomas Burr, a Ware Quaker.
- William Coxe: a maltster who was based at the Castle Inn, Hertford, at least between 1668 and 1672.
- Mr Wilson probably William Wilson of Ware, described as a bargemaster in his will of 1684. Left all his property to his son William, who on his death left a half share in one barge to his widow, Sarah.
- Thomas Burr: a prominent Ware Quaker, who married the daughter of Richard Martin, a Hertford Quaker. Jointly owned a barge with Richard Thomas a Hertford Quaker. His brother William was also a maltster, who became a bankrupt during the 1690s.
- John Perrot(Parratt): a Ware maltster who owned the Crown Inn between 1667 and 1688, and had a half share in the Talbot Inn at Great Amwell after 1682: V.A. Rowe, *The First Hertford Quakers*, 53-54. HRO, BHR Vol-7U, fos.393, 448, 474; Vol 48 fos.42,47; ERO, 442 BR 11; 342 BR 14; GLRO, 0/463/3; HRO, D/E 4529, 25411.