

6. Route ways and watercourses

Aims of Study

The primary aim behind this stage of the project was to produce a dataset concentrating on the main historic lines of communication in the Colne Valley. This is separated into two broad categories - that of over land route ways such as historic roads and railways as well as watercourses both natural and artificial. This resource could then be used to assess changes to the network of routes across the Colne Valley.

Methodology

A primary basis for this part of the project was the methodology under development for the Chiltern HLC project using a simplified mapping form in order to focus on the main historical route ways. The only exceptions to this were modern route ways such as motorways and bypasses; these were included as they had a major impact on the structure of the Colne Valley. The same attribute table will be used for both route ways and waterways in order to minimise data. Preliminary mapping from the enclosure and tithe awards were carried out alongside the earlier phases (see Appendix 5: Table 9 for attribute table).

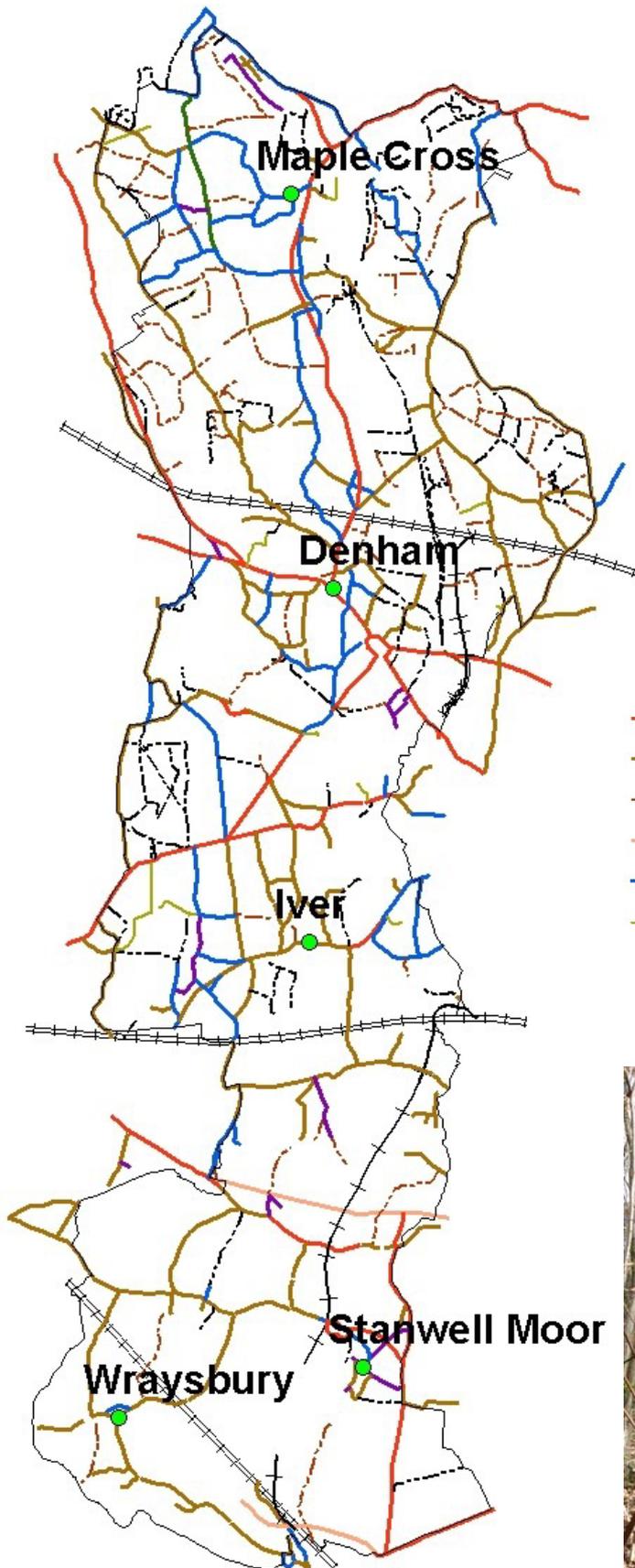
Mapping of road sections was based primarily on their characteristics; for example, motorways cover larger sections as their layout is fairly uniform and they date to the modern period. The possible Roman roads were also mapped in larger sections because again they are fairly uniform. Medieval and ancient roads, however, were broken down into smaller sections, as they tend to follow more convoluted paths. At least two major ancient paths are known to cross the Colne Valley Park into London following the paths of the modern A4020 to Buckingham and the A4 to Maidenhead (cf. Gough's map c1360; Ogilby's strip maps c.1675).

This project also included an in depth study of the watercourses within the Park. This involved mapping artificial watercourses such as leats, ditches and the canals as well as natural river channels. Secondary to this; watercourses that are no longer in existence were recorded (Figure 80). These lost watercourses primarily consisted of leats and ditches constructed in conjunction with watercress farming, the majority of which have been removed as a direct result of mineral extraction in the north of the Colne Valley Park. This database also records changes made to the natural river course through straightening of sections as well as modern deviations due primarily to the construction of the motorways. Finally, a number of artificial river channels were recorded in the London Borough of Hillingdon, the majority of which date to the 17th century and earlier.

An additional dataset was created as a support containing a rapid survey of weirs, sluices, locks and mills along with footbridges, fords and historic bridges. This layer uses evidence from the 1880 OS 1st edition as well as the OS mastermap series and records the type of site and its survival to the present day. Most of the mill sites also remain, albeit converted to other purposes such as youth centres or housing. It is the footbridges and fords that show the most loss since the 1880s as fords increasingly fell out of use as they became impractical for motor vehicles whilst the loss of footbridges can be strongly linked with the loss of watercress beds and in turn the leats that fed them.

6.2. Route ways

Figure 68: The present day route ways



Route ways in the Colne Valley have remained remarkably intact in comparison to the level of growth and urbanisation. The essential historic framework of roads and paths continue as a backbone to the modern transport network with the vast majority of old medieval and pre-map source roads are now used as modern B-roads. Some introductions have been made including the Colnbrook bypass, several historic railways and the motorways that dissect the Valley, while most of the modern A-roads also have historic roots as roman roads and toll roads. The greatest level of loss is recorded with the footpaths and trackways as a high number of these disappeared throughout the century.

- | | |
|-----------------|----------------------|
| — A road | — parliamentary road |
| — B road | —+— railway disused |
| footpath | ==== railway |
| — bypass | — roman road |
| — medieval road | tracks |
| — private road | |

Figure 69: Footpath dating to mid 1950's through Old Park Wood, Harefield



Figure 70: Routes network NG 10k edition (1972-1990)

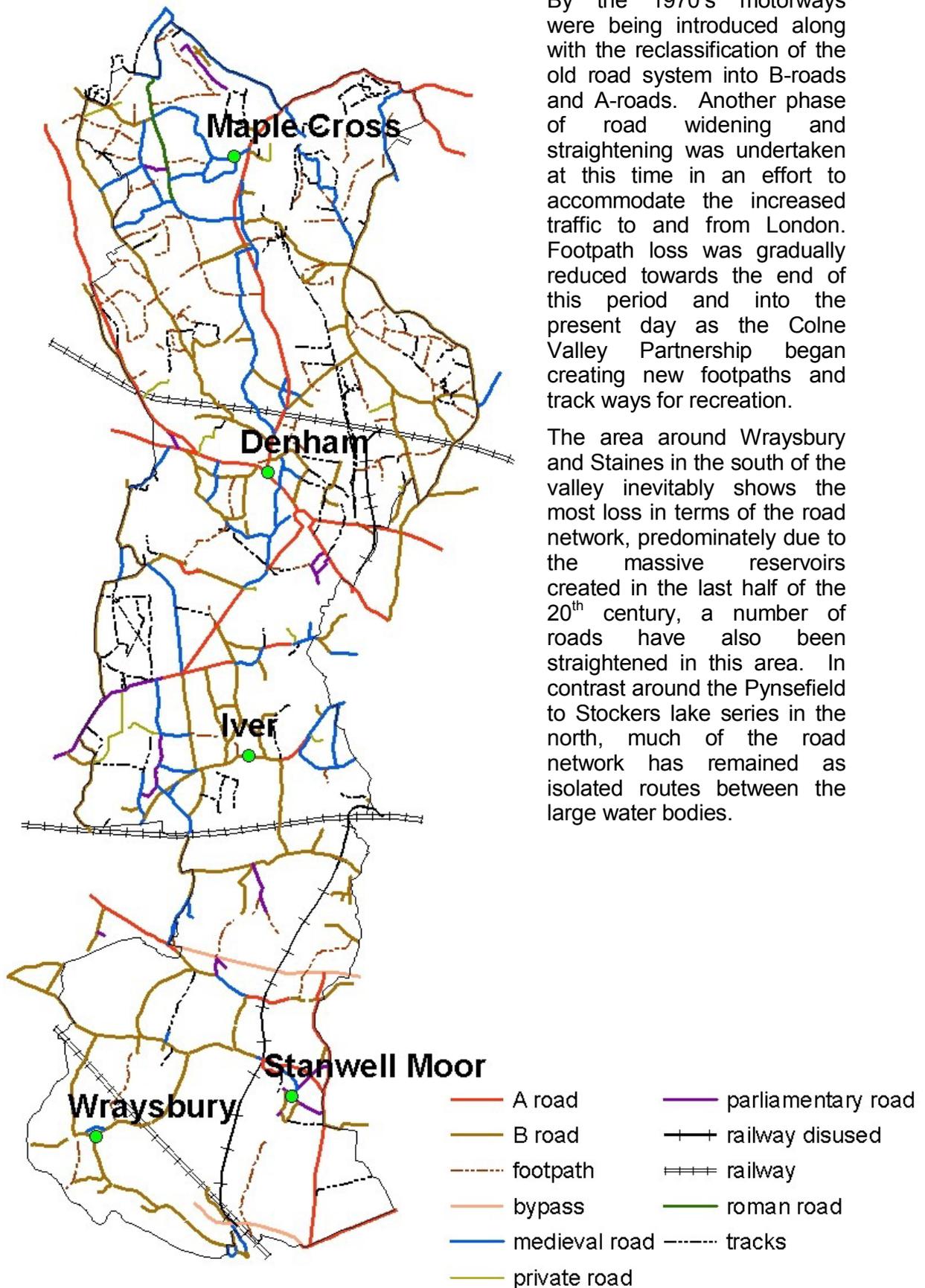
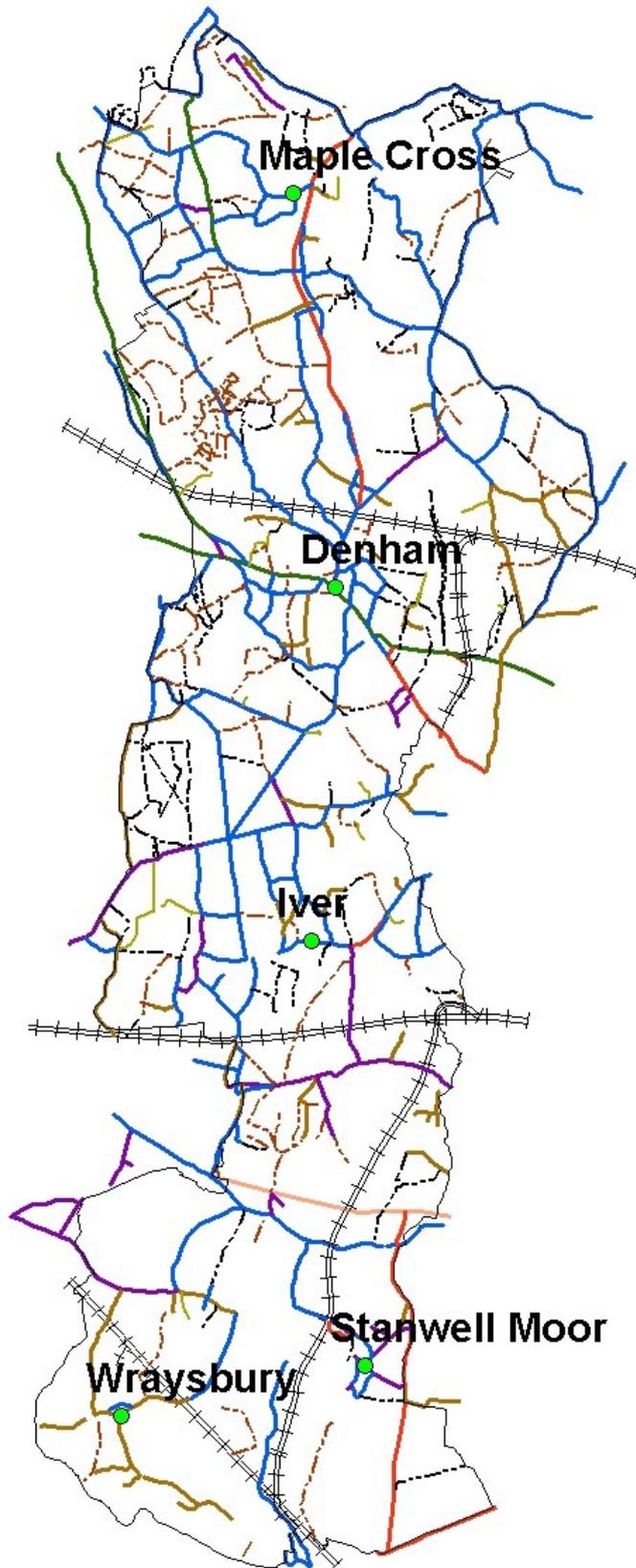


Figure 71: Routes network. NG 6" provisional edition (1955-1962)



Although the fabric of the road network had been maintained, their condition and appearance differs greatly from their origins. The rise of the motorised vehicles along with metalled roads necessitated a great many changes to these old routeways including re-surfacing, widening, straightening and significant alterations to their course. As a result of this the footpaths that once served to link settlements and between wells, rivers, businesses and extractive sites no longer served a functional purpose and either fell out of use, or became recreational in function.

Railways were introduced by the mid to late 19th century and further increased the urbanisation of the area. Links between the major railway lines, settlements and other sites were provided by short sections of railways. Several sections of temporary tramways were also constructed between various extraction sites and the railways and canal ways

- | | |
|-----------------|----------------------|
| — A road | — parliamentary road |
| — B road | —+— railway disused |
| ... footpath | —+— railway |
| — bypass | —+— tramway |
| — medieval road | — roman road |
| — private road | --- tracks |

Figure 72: Routes network. OS 6" 1st edition. (1876-1886)

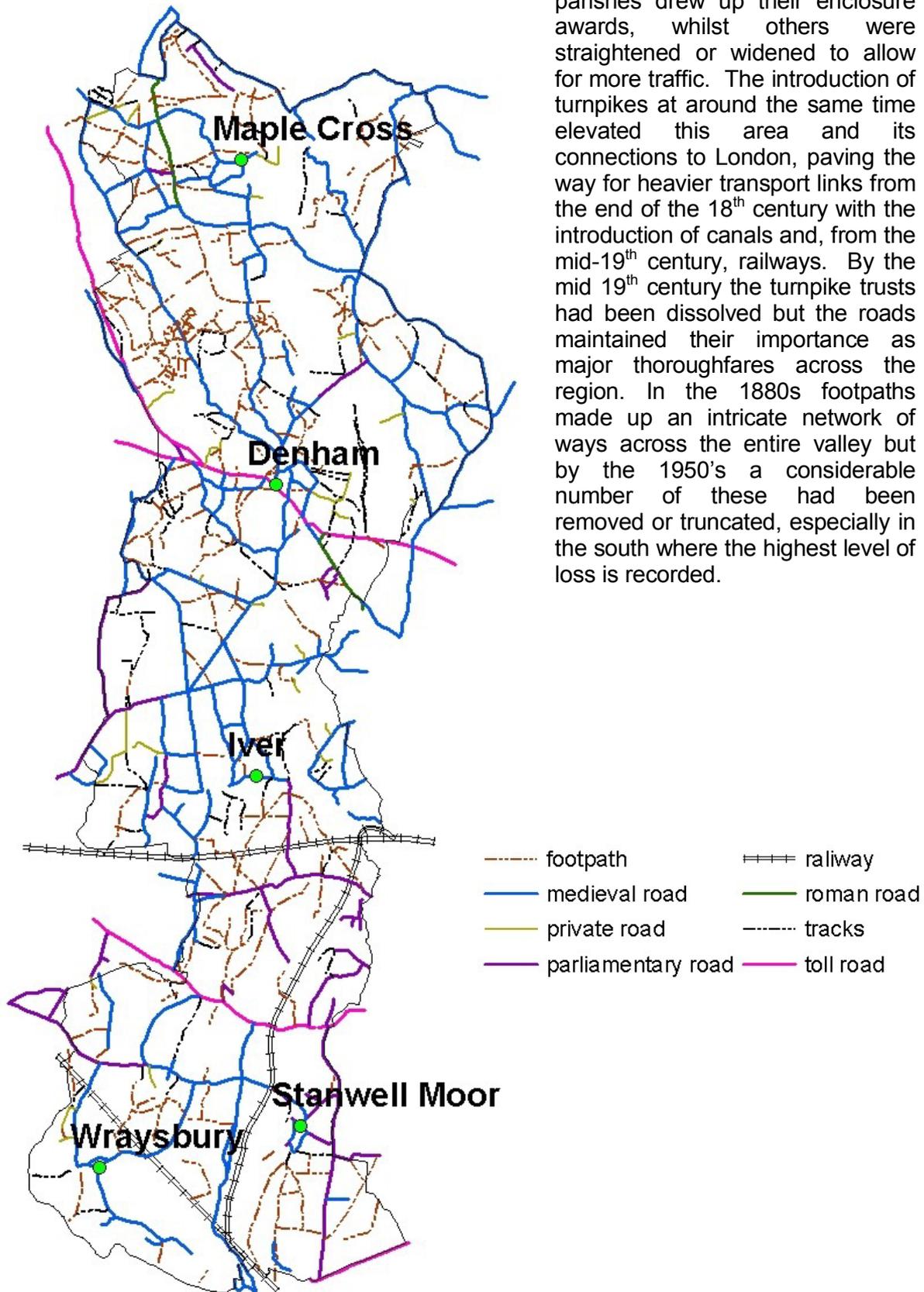
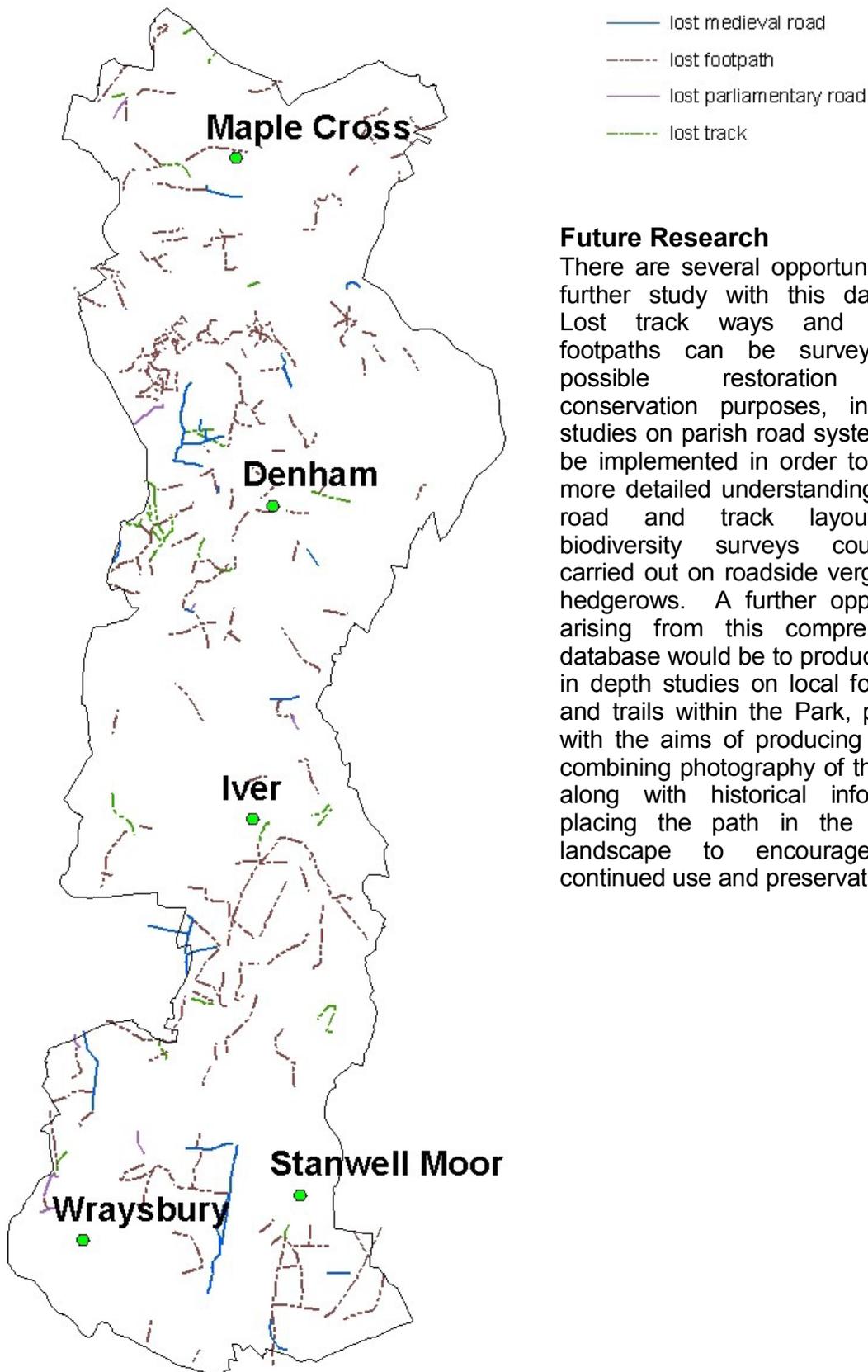


Figure 73: Lost historic routes in the Colne Valley Park

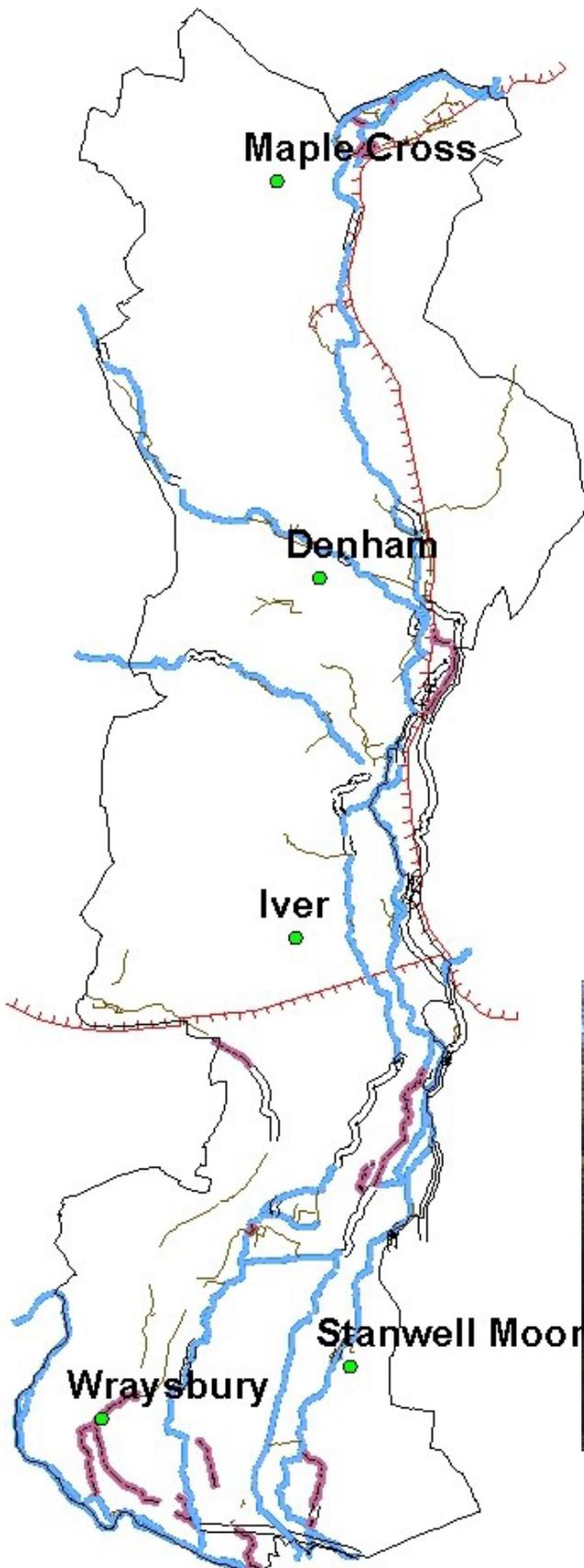


Future Research

There are several opportunities for further study with this database. Lost track ways and historic footpaths can be surveyed for possible restoration and conservation purposes, individual studies on parish road systems can be implemented in order to gain a more detailed understanding of the road and track layout and biodiversity surveys could be carried out on roadside verges and hedgerows. A further opportunity arising from this comprehensive database would be to produce more in depth studies on local footpaths and trails within the Park, perhaps with the aims of producing leaflets combining photography of the route along with historical information placing the path in the historic landscape to encourage their continued use and preservation.

6.2. Colne Valley River System

Figure 74: The present day water network



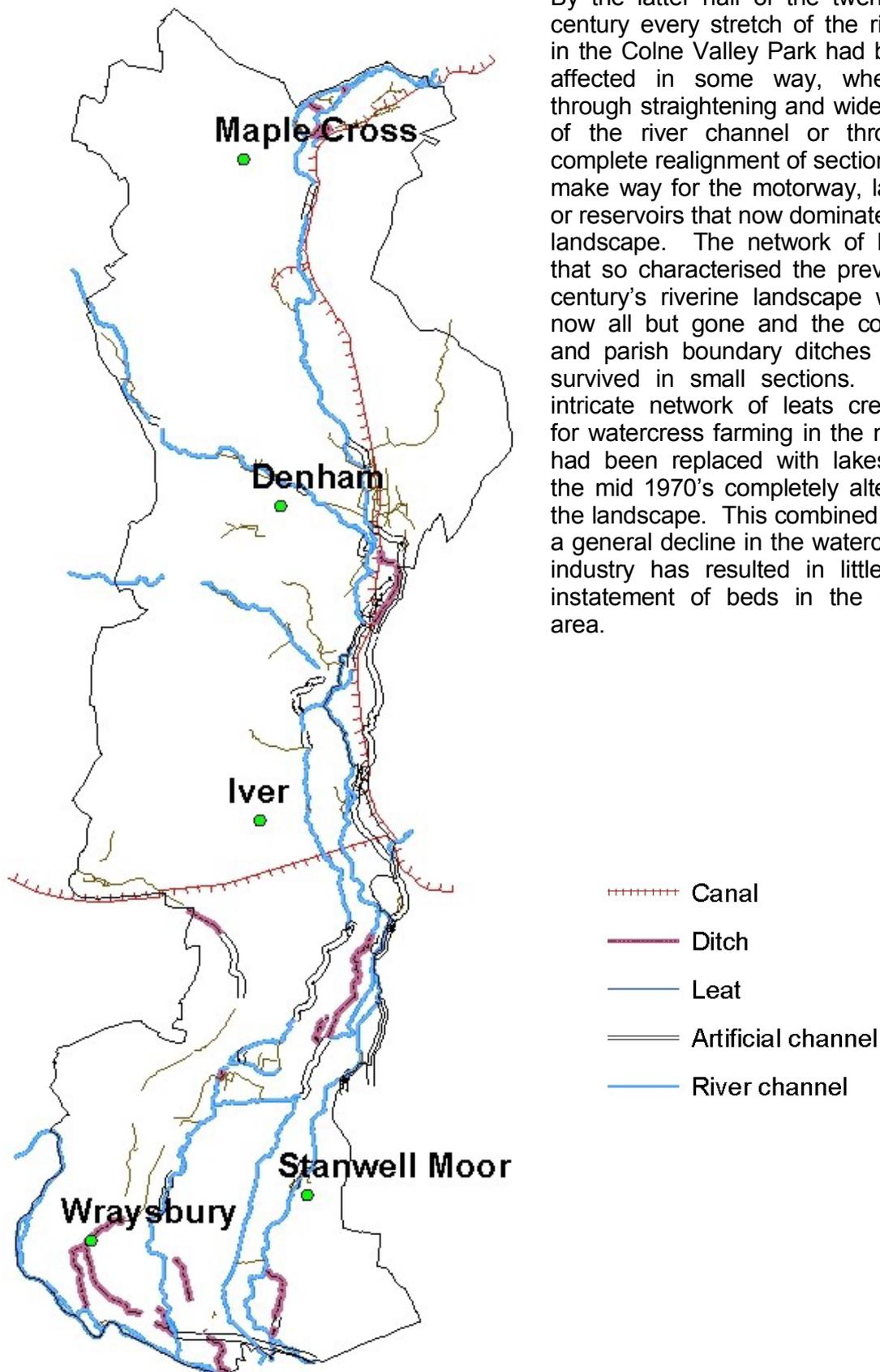
The Colne Valley river system shown in Figure 74 exhibits an intricate pattern of natural and constructed watercourses. Natural river channels for the purposes of this document are defined as stretches of the river course that have not been artificially constructed from the medieval period onwards. The courses of the waterways that run through the Colne Valley Park have been heavily altered over many centuries as new river stretches have been cut, channels straightened and widened and ditches and leats added to channel water for watercress farming and millworks. The present day network, shown in Figure 74, highlights the extent to which the river network has been altered through the addition of wholly artificial sections along the course of the river channel, surviving sections of medieval boundary ditches, modern canal ways as well as surviving sections of leats.

- +++++ Canal
- Ditch
- Leat
- ==== Artificial channel
- River channel

Figure 75: River Colne, nr Denham Park Visitor Centre

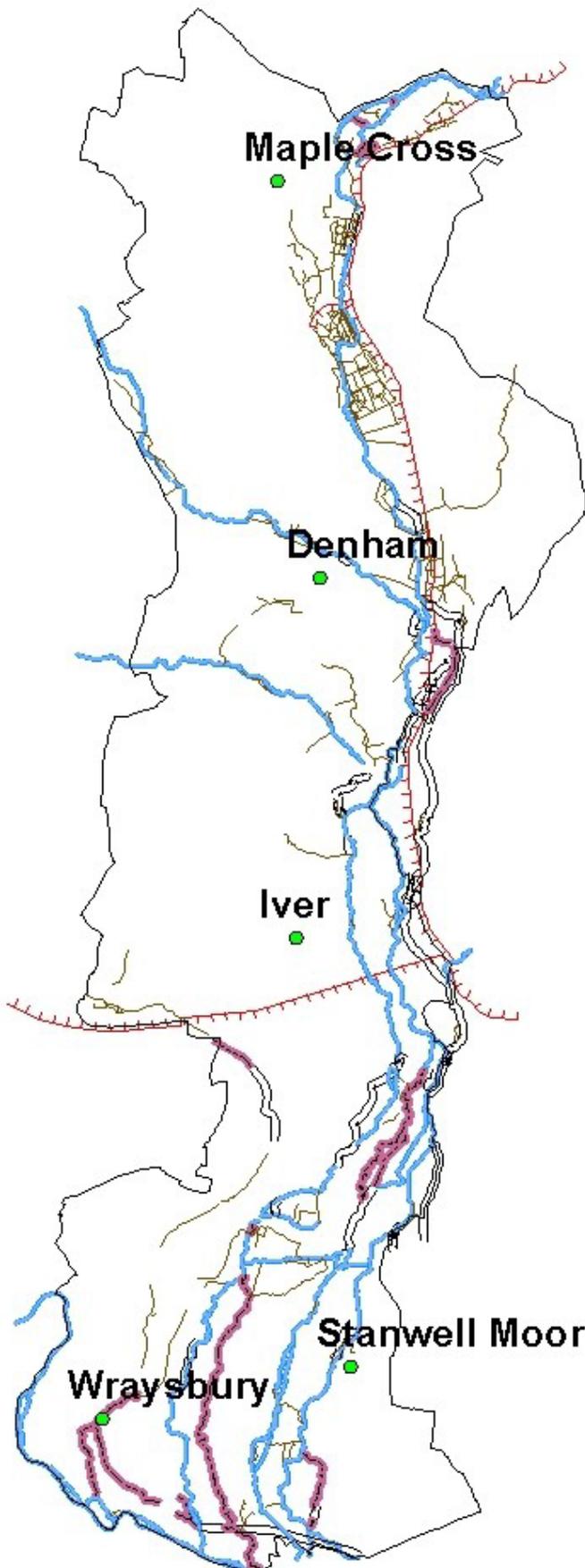


Figure 76: Water system. NG 10k edition (1972-1990)



By the latter half of the twentieth century every stretch of the rivers in the Colne Valley Park had been affected in some way, whether through straightening and widening of the river channel or through complete realignment of sections to make way for the motorway, lakes or reservoirs that now dominate the landscape. The network of leats that so characterised the previous century's riverine landscape were now all but gone and the county and parish boundary ditches only survived in small sections. The intricate network of leats created for watercress farming in the north had been replaced with lakes by the mid 1970's completely altering the landscape. This combined with a general decline in the watercress industry has resulted in little re-instatement of beds in the local area.

Figure 77: Water system. NG 6" provisional edition (1955-1962)



By the 1950's the pattern of water ways had already been greatly reduced as a great many of the previous centuries leats and ditches were no longer in use, in the Rickmansworth area, the mining and later construction of lakes in the Stockers farm area meant the loss of large areas of watercress beds. Around Wraysbury, also, there was extensive loss to ditches and leats as the large reservoirs were constructed. Figure 78 shows a highly intricate web of leats leading off from the river Colne, it is located under what is now the Pynesfield lakes. This area of the Colne Valley Park was intensively utilised for watercress farming until the early twentieth century.

- Canal
- Ditch
- Leat
- Artificial channel
- River channel

Figure 78: Watercress beds, west of Mount Pleasant, Hillingdon. (OS 1st edition 1880)

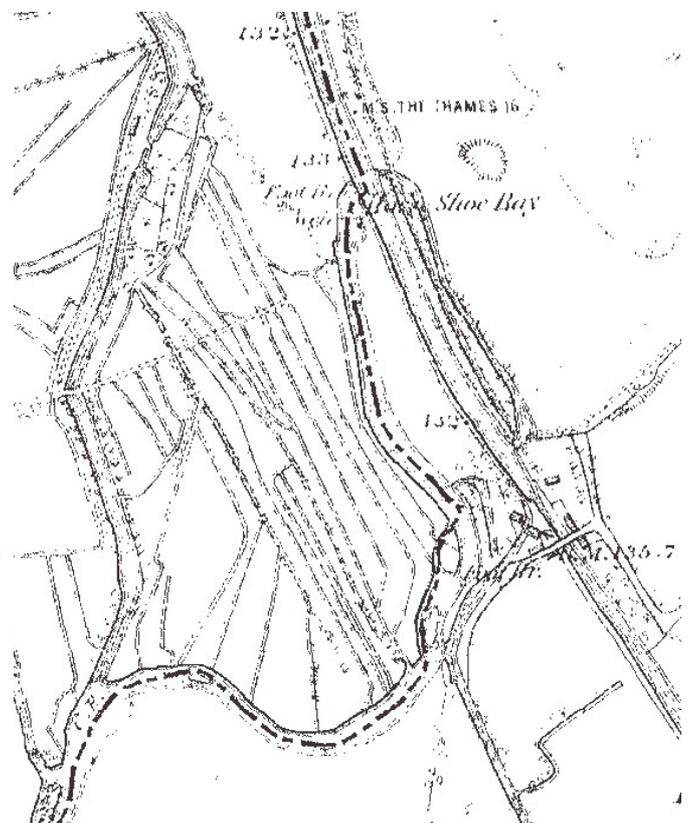
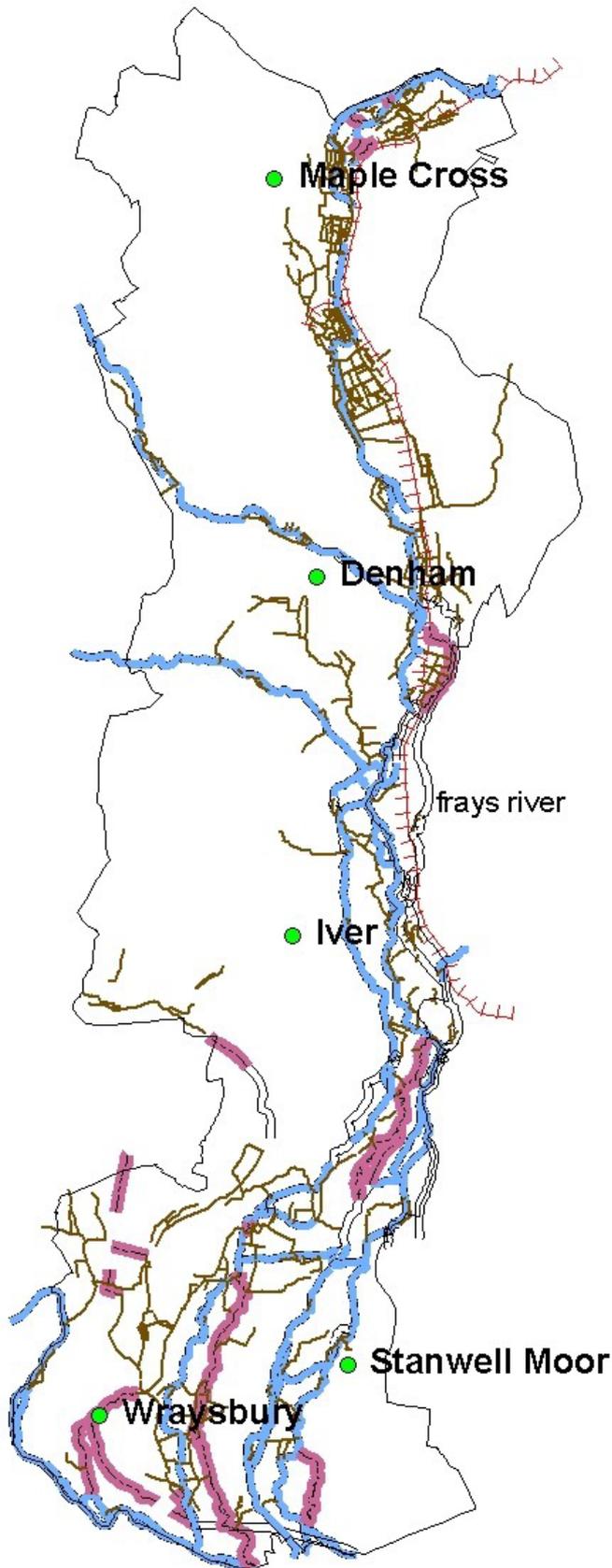


Figure 79: Water system. OS 6" 1st edition. (1876-1886)

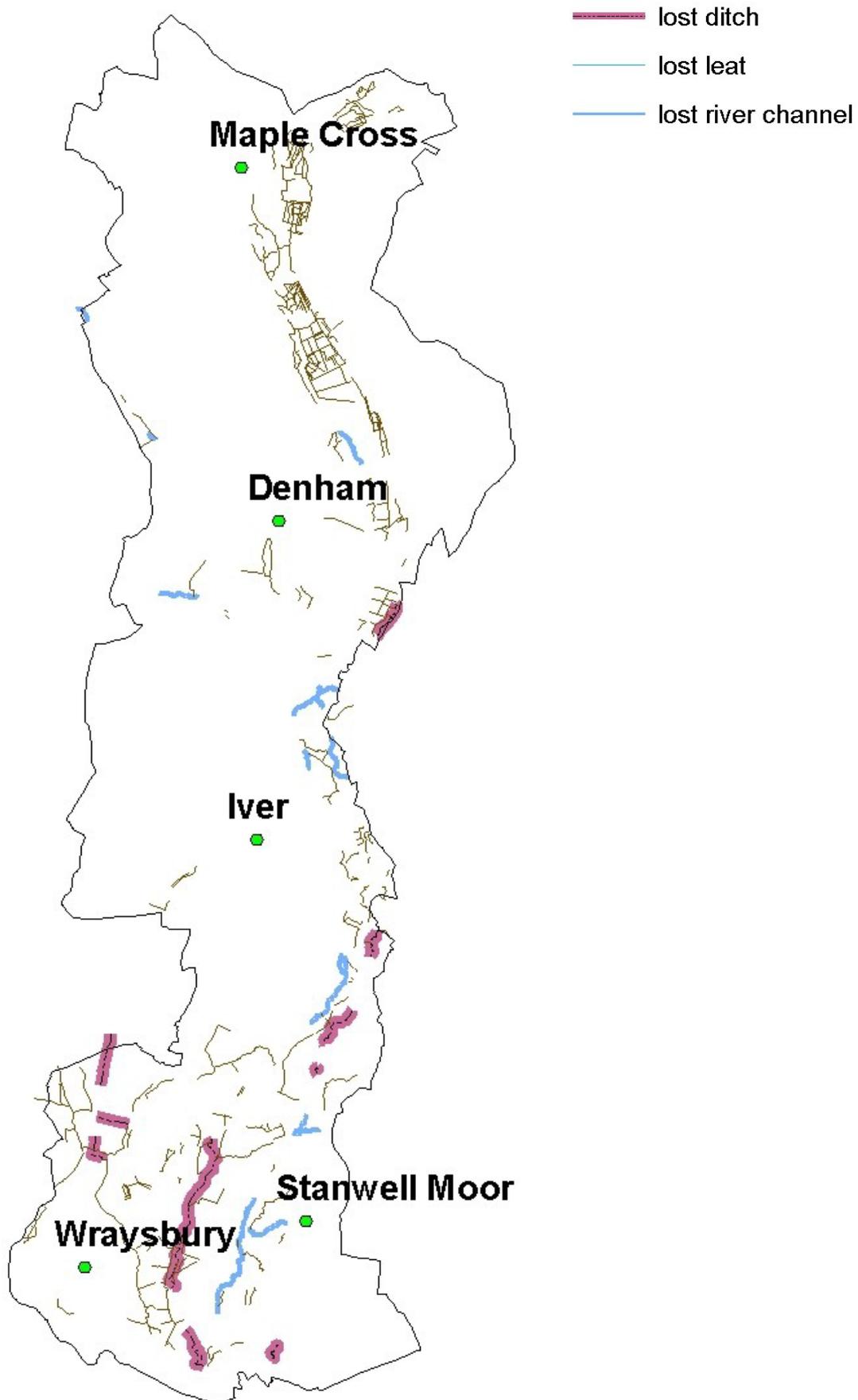


The most extensive addition to the historic river system was the cutting of Fray's river in the 15th century, although details of this remain scarce it is thought to have been cut by John Fray, the Baron Lord Chancellor to the Exchequer in order to power mills in the Uxbridge area. Further artificial branches to the Colne River include the Duke of Northumberland's river, cut in the 16th century and the Queens or Cardinals river dating to the 17th century (Baker et al: 1962). The early medieval county ditches only survive in small sections due to later construction of motorways, reservoirs and to some extent the extractive industry. Included in county ditches are fragments of Shire ditch, Bonehead ditch and the Bigley ditch. Trade along the Grand Junction canal was flourishing by the early 1800's with flour and coal as the main resources transported on the new canal. The late construction of the Slough branch of the Grand Union Canal in 1882 constituted one of the last canal ways in England with the aim of promoting the brick industry in the area and in particular the sites at Langley.

The myriad of leats built to divert water from the rivers through adjacent field systems in order to feed watercress beds indicate the importance of this industry to the inhabitants of the Colne Valley Park. The construction and management of the river system in the Park would have had a major impact on the landscape especially in the 19th century, Figure 79 shows the river system in the 1880's as a highly intricate, extensive system of rivers leats and ditches that would have been highly visible. The importance of the river would have been paramount to the local communities as a source of work as well as for survival.

- Canal
- Ditch
- Leat
- Artificial channel
- River channel

Figure 80: Lost water courses in the Colne Valley Park



6.2.i. Structures on the Water ways

Figure 81: Structures on the river network OS 1st edition 1880.

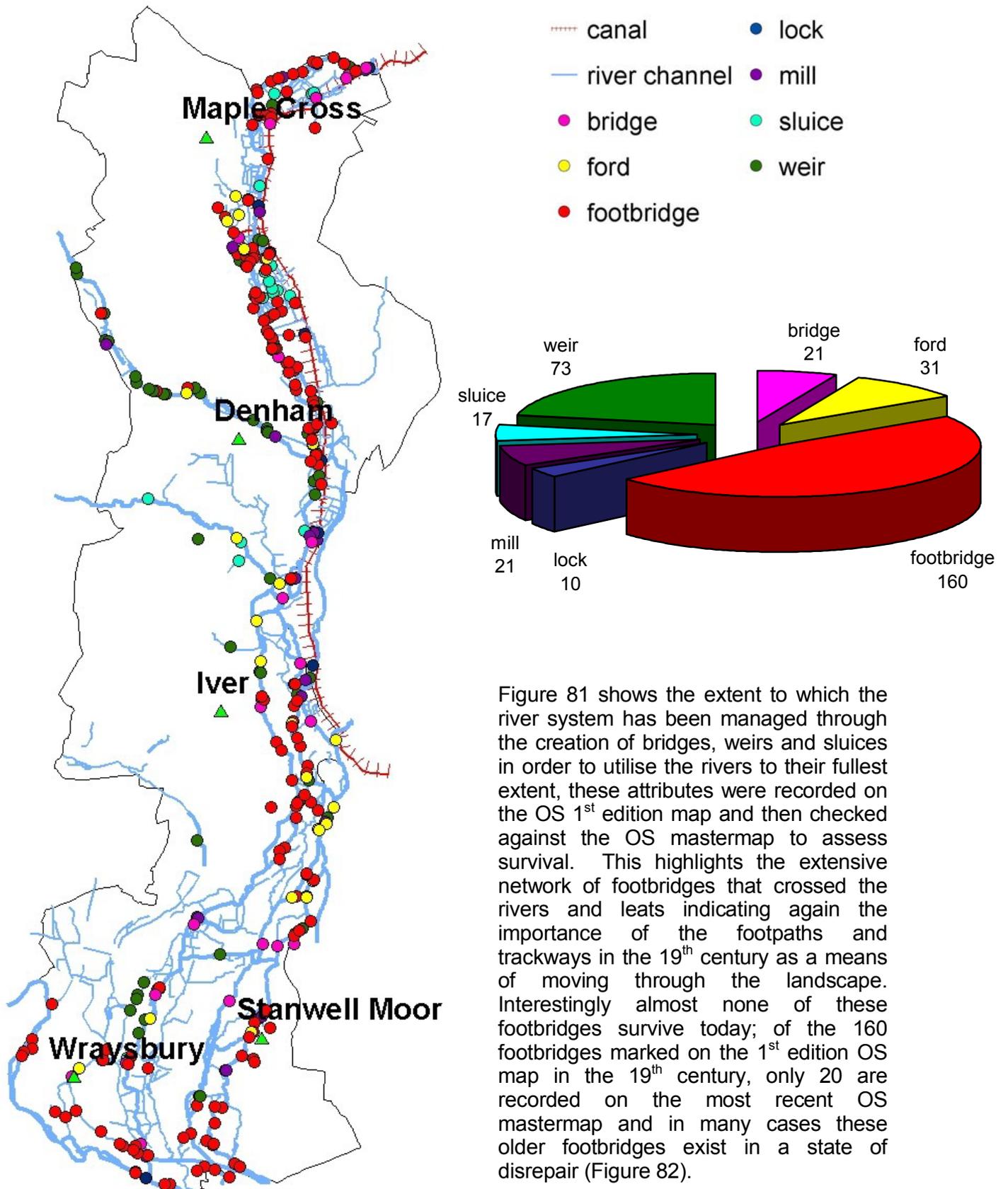


Figure 81 shows the extent to which the river system has been managed through the creation of bridges, weirs and sluices in order to utilise the rivers to their fullest extent, these attributes were recorded on the OS 1st edition map and then checked against the OS mastermap to assess survival. This highlights the extensive network of footbridges that crossed the rivers and leats indicating again the importance of the footpaths and trackways in the 19th century as a means of moving through the landscape. Interestingly almost none of these footbridges survive today; of the 160 footbridges marked on the 1st edition OS map in the 19th century, only 20 are recorded on the most recent OS mastermap and in many cases these older footbridges exist in a state of disrepair (Figure 82).

Figure 82: Disused footbridge over the river Colne

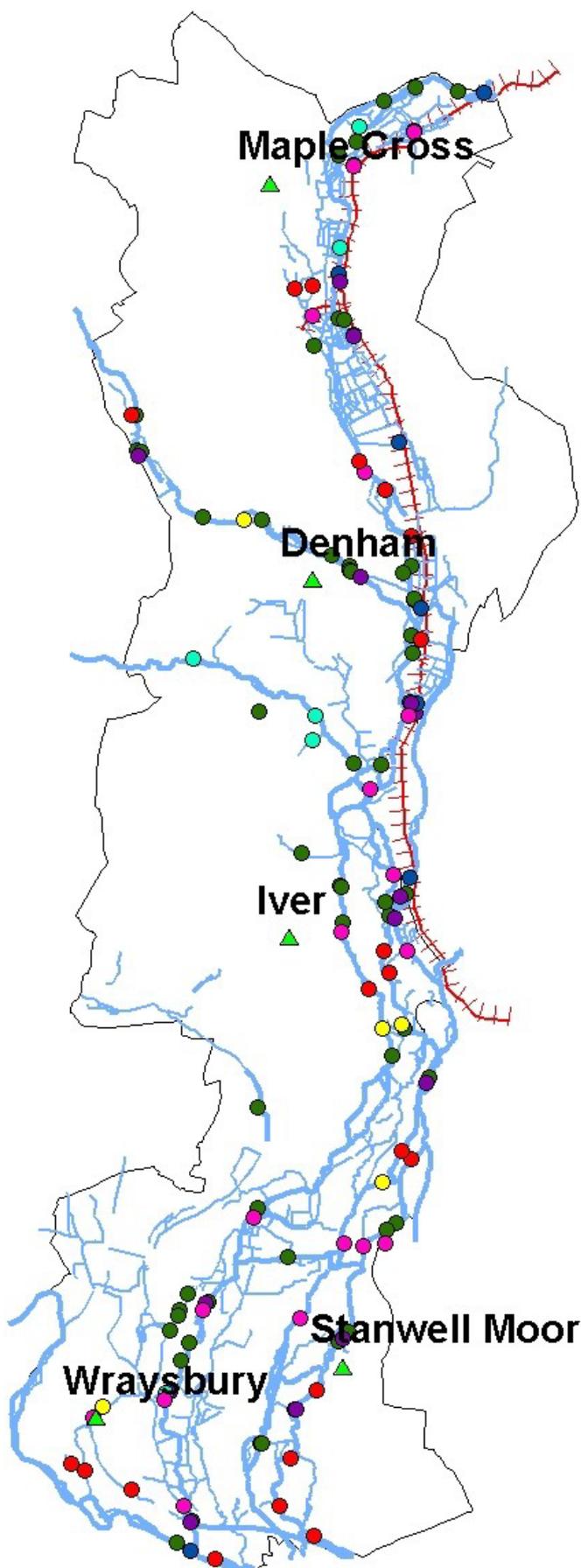


In the 18th and 19th centuries the river was heavily utilised for a number of industries. Weirs and sluices concentrated the force of the river in order to power a number of mills built along the course of the river, many of which were corn mills built to process the produce from the local farms. Entire river channels were also constructed to power even more mills in the Uxbridge and Hillingdon areas, use of the river for mill power was primarily concentrated in this area. Leats and ditches were also cut in order to feed a significant industry in watercress farming in the north of the Colne Valley. This database also records a myriad of footbridges, fords and bridges crossing and re-crossing water channels at all point along the course of the rivers.

Figure 83: Two surviving weirs on the river Colne



Figure 84: Extant waterway structures



The creation of so many weirs and sluices give an indication of the level of management of the rivers for industrial purposes as most often they were used to divert and channel the water towards mills and fish farms. In the 1880's 19 mills were recorded on the OS 1st edition map as being on or near the river Colne whilst a total of 90 weirs and sluices were recorded. Weirs were most commonly used to direct and increase the power of the river over short distances in order to increase the function of a nearby mill whilst sluices were more commonly found at the point where a leat coincided with the main river.

A high number of fords also indicate the level of wheeled traffic using the road network in the area; some 31 fords were recorded on the OS 1st edition map in comparison to 21 bridges, but while 18 bridges remain today, only 3 of the fords have been converted into bridges in their own right.

Future Research

This database highlights some areas that may benefit from further study either through a community based project or a professional one. Habitat and biodiversity surveys on the rivers and canals may provide useful information on species diversity, which in turn can help inform planning decisions. A more detailed survey of the waterway structures may also be useful in order to assess the historic interest of those that do survive, better understand the reasons for loss of the footbridges with a further possibility of restoration of those that survive in a derelict state such as in Figure 82.

A more detailed study of the river features could also be used to further enhance HER/SMR databases as while mills and locks are well represented, comparatively few footbridges and bridges are listed. In Buckinghamshire, of the 45 footbridges and four bridges identified in this survey as being entirely within or on the borders of the county, only four footbridges are listed in the SMR database, although all bridges are included and in fact more mills are listed in the SMR than are shown in this survey as they predate the OS 1st edition map. The Greater London SMR, in contrast, lists five footbridges out of a 35 in this survey and three out of four bridges in their database. Finally, the Three Rivers segment within the Colne Valley Park lists only one footbridge out of 31 but 3 bridges out of five.