4. The Water of Leith

As stated in the introduction, the format of this account is slightly different from those for the other rivers; it follows the same template in the upper reaches, but draws back once within the city boundary of Edinburgh. The modified approach sticks close to the river and its tributaries, dealing largely with artefacts on the banks, rather than roaming within the catchment. So, nearby buildings and noteworthy people associated with them, are normally left for consideration in the context of the city as a whole, in the many guide books and other volumes which deal with almost every facet of Edinburgh. This leaves mainly those buildings which are best described as on the river, including the water mills, listed in Table 1 with its map of the river, together with an assortment of bridges; as it happens none of the latter is of great antiquity but some deserve attention for other reasons. Edinburgh has expanded over a landscape which in the past encompassed hills, lochans and small streams; the hills remain obvious, but many of the water features are in the 'long-lost' category having been drained or buried. Those with a connection to the Water of Leith will be considered here.

The sources of the Water of Leith are springs at near 400m height on the northern slopes of West Cairn Hill and Colzium Hill, in the Pentland Range. These feed three streams, rather unimaginatively named, 'West Burn', 'Mid Burn', and 'East Burn', which join together near the hamlet of Colzium, to form the Water of Leith, at Grid Reference Point NT 086 589. From here, the small river winds north-east for c2½km until it enters Harperrig Reservoir. This large artificial body of water has a surface area of 94 hectares, and is shaped something like an open-mouthed flounder, with its tail to the south-west, where the Water of Leith enters, and with its jaws to the east. The reservoir was opened in 1860, and its function was to store water which could be used, especially during dry spells, to compensate for water abstracted from the springs referred to above, their effusions having been piped into the Edinburgh water supply as described in Appendix 1. Reservoir water was released as needed, to maintain a large enough river flow to drive the many mills along the river in the 19th century. Strangely, its function has turned full-circle, as with the mills defunct, it now holds back water which would otherwise increase the risk of flooding in Edinburgh, after heavy rain.

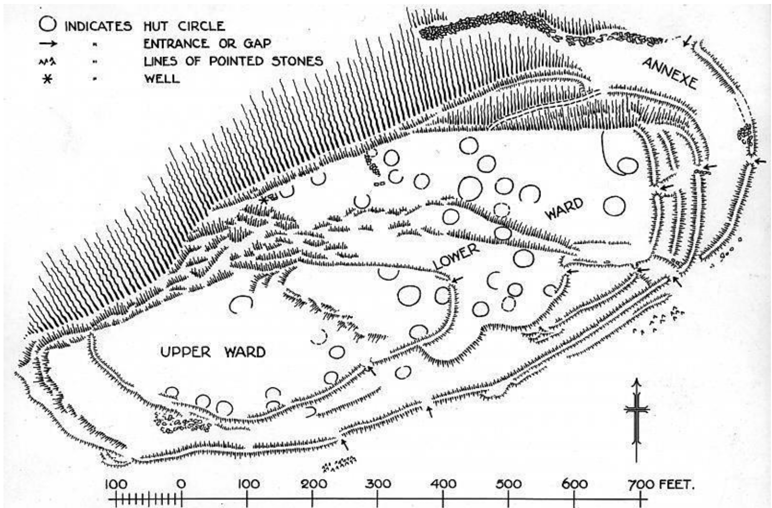
On the right bank of the river as it widens out into the reservoir, are the remains of Cairns Castle, a modest L-shaped tower dating from 1440. The building is invisible from the access road, wholly masked by trees at least in summer, but the main part, shown in the photograph, has plan dimensions, 8.2 X 7m, with walls up to 1.8m thick; it was at least 3 storeys high with a basement below, which was accessed by a separate entrance. The more decayed wing is 5.5m square. The tower was built by George Crichton, one-time Lord High Admiral of Scotland and Keeper of Stirling Castle, who later became Earl of Caithness; he was a cousin of the notorious William, Lord Crichton, Chancellor of Scotland, who featured in the account of the

River Tyne. Of course the castle long-predates the reservoir, and its location probably had little to do with the Water of Leith which was only ever a small stream here. Instead it guarded the Cauldstane Slap, a high pass just to the east, between the East and West Cairn Hills of the Pentland range. An important route between central Scotland and the Borders from medieval times, and maybe earlier, the pass was later part of a drove road along which cattle were taken, maybe tens of thousands every year, between Falkirk and Peebles on their way to English markets. The alternative name, 'Thief's Road' indicates that not all were legally moved.

Returning for a moment to the flounder likeness of Harperrig Reservoir, the Water of Leith is reborn as water is released through the dam which terminates the upper jaw at the east end. There is a low rise on the right bank called Temple Hill which speaks of past ownership of the land around, by the Knights Templar, and the small stream soon passes under the wooden bridge which now carries Thief's Road, though the river is narrow and easily fordable. It is close-by and just south of the Edinburgh to Lanark road, the A70, often known as the 'Lang Whang'. Across the road from the river is Kirknewton air base, which began life as a grass airfield in 1940. It was never a front-line RAF establishment, housing a succession of training and maintenance units until the early 1950s. It then became a small American airbase, operating electronic listening equipment rather than aircraft until 1966. Those based there seemed quite exotic in the dull 1950s, and certainly impinged on my consciousness, because I played golf in my late boyhood years at Dalmahoy Golf Club, which was a few kilometres to the north-east, and I was accustomed to seeing uniformed American airmen arriving there to play. One sergeant was a good enough golfer to become club champion at what was a very strong playing club, while I also remember two of the Colonels in charge who were fanatical about the game. I believe the base is again under RAF control, but only a few rather run-down buildings are now visible.

A minor road crosses the river close to the airbase, a bridge having replaced a ford, or strictly, an Irish bridge, fairly recently. The latter structures are quite common, but not always obvious; they comprise a set of transverse channels or pipes built into a flat concrete bed which carries the roadway. When the flow is low, the water passes only through the channels, but when it is higher, water passes over the top of the roadway as well. My picture taken from the bridge, looks downstream after some very dry weather, but the flow here is almost entirely controlled by reservoir sluice gates, so an absence of recent rainfall might not affect it much. The spot also has boyhood memories for me as I came here to fly-fish for trout a few times with my father; it was a pursuit I soon discarded for want of the necessary patience. Nearby is a house which was once part of a mill complex, Leithhead, the furthest upstream of many on the river; at different times the mill was adapted to make paper and grind corn.

Immediately to the north-east of Kirknewton air base is Kaimes Hill, which rises to 259m above sea-level. More than two millennia ago, this was the site of an Iron Age hillfort of great complexity, as shown on the RCAHMS plan alongside. A number of excavation programmes were completed in the 20th century, triggered because most of the hill was doomed to disappear as a result of quarrying. The ramparts, shown as double lines, are now no more than 2m high but were surely once higher, and probably carried palisades; some are of earth alone, some built around wooden beams or stone rubble, and some have slabs along the inner faces. These differences are part of the reason it is assumed that there were 3 phases of building, beginning with a summit fort, 'the high ward', surrounded by a single rampart, which was extended eventually to cover the whole hilltop, and include the complex entrance at the east end (to the right on the sketch). As far as I understand, carbon-dating and the range of artefacts discovered, suggest that the hillfort might have been occupied from c500 BC onwards, perhaps intermittently, for close to a thousand years. Viewed from the south, beside the Water of Leith and the A70, Kaimes Hill is an outlier of the Pentland Hills range, on which the ramparts of the hillfort are clearly visible. Viewed from the north, the hill rises steeply from the Lothian plain, but has been almost entirely eaten away by quarrying, leaving little trace of the hillfort; in effect the undisturbed south face is something of a façade, almost like a two-dimensional film-set.



Immediately to the north-east of Kaimes Hill is Dalmahoy Hill, 246m high and the site of another hillfort. The photograph was taken from the north, so the Water of Leith lies on the other side of the hill. There is less of a contrast between the two aspects than for Kaimes Hill. The cliff faces on the north face are natural, and not the result of quarrying, though that is taking place on the lower slopes. The most obvious man made ramparts surround the central portion of the summit area, more or less in the centre of the photograph, but it is thought that a rampart lower down, may be from an earlier occupation. The latter was probably during the late Iron Age, perhaps c200 BC, but the summit rampart may reflect occupation as late as 500 AD; only one round house foundation has been identified, which may suggest that the hill was used for ceremonial purposes, or to house livestock. However, I shall dwell no longer on the unanswered questions that are still posed by the many hillforts in the British Isles, (over 4100 were numbered in a recent exercise), but continue my journey along the river to enter the village of Balerno, which is mostly on the right bank, though there is a growing amount of new housing on the other.

Balerno is a village of some antiquity, dating back to the 13th century, when it must have been a farming community. It is close to the confluence of a first significant tributary, the Bavelaw Burn, with the Water of Leith; the two streams made possible the second phase of the village's existence, beginning in the 18th century, as water mills were built along the banks of both of them. In his book on the subject, Priestley points to 6 mills along the Bavelaw Burn, and another 3 on the Water of Leith, so 9 in total in the village, though not all may have operated at the same time. The range of processes carried out in these mills was extensive, engrossing flour-making, paper making, furniture making, and fabric manufacture amongst others, with few sticking to one activity throughout their lifetimes. A railway opened in 1874, primarily to service the mills, but also carrying passengers; it was closed in 1967 when most of the mills had shut down. The third, and present phase of the village's existence became inevitable with local employment dwindling, and it is now an outer suburb of Edinburgh, with a population approaching 10000. The village centre is unmemorable, drained of most of its purpose by proximity to the capital, and many new houses are in somewhat monotonous estates. This is a pity as the village has a fine setting on the northern slopes of the Pentland Hills.

Malleny House is one of the two oldest occupied buildings in the village, near the right bank of the Bavelaw Burn, just upstream of where it flows from the south into the Water of Leith. The estate has had many owners, and there was probably a medieval castle, which vanished long ago, but much of the house which now stands and is shown alongside, was built for the Murrays of Kilbaberton in the early part of the 17th century. Dating is confused by the fact that parts of an earlier house were reused, including a date-stone for 1589, and by the fact that the house has been modified substantially since. Indeed, McWilliam seems to regard it as much more a house of the 18th and 19th centuries, than any time earlier. It continued to change hands regularly in later years, with the 5th Earl of Rosebery, later Prime Minister just one of its owners, for a few years after 1881. It is now in the portfolio of the National Trust for Scotland, and the gardens but not the house are open to the public. On the west side of the village is another 17th century building, Cockburn House, a plain, 2-storey, L-plan residence dating to 1672, and little altered externally since then, though it now contains only offices and storerooms for a business on the site.

The Bavelaw Burn emerges as the outflow from Harlaw Reservoir, c1.5km south-east of Balerno. The reservoir was opened in 1848, along with its larger partner, Threipmuir Reservoir, both north of the Pentland Hills watershed, and together they extend over an area of 95 hectares, (almost exactly the same as Harperrig Reservoir). The water collected went by way of filters to Edinburgh, but agreements with mill-owners guaranteed that enough water would be released into the burn to drive the mills along its course. Now, the reservoir no longer supplies Edinburgh, or releases water to drive mills, but instead maintains a decent flow in the burn for aesthetic and environmental purposes, and traps water after heavy rainfall to prevent flooding in the city. Harlaw Reservoir is L-shaped with the long leg pointing south-west to where it is connected with

Threipmuir Reservoir, which lies south-west/north-east, varying considerably in width. Waterfowl are much in evidence. The ground slopes upwards to the south from the west end of the reservoir, and here on the north slope of Hare Hill at the 300m contour, but well shielded by trees, is Bavelaw Castle, an L-shaped laird's house dating from the 17th century, but the subject of major restoration at the start of the 20th century. The main feed into the reservoir is the headwater of Bavelaw Burn which enters at the west end having flowed north and then north-east from its source near to the Bore Stane, (close to the source of the River North Esk).

Some of the mills along the Bavelaw Burn between the reservoirs and the village, which are listed in Table 1, have left evidence of their existence, as illustrated by the photograph of the dilapidated waterwheel at Balleny Mill, which has been converted into a private residence. Balleny Bridge is also in view; it was built in the late-18th century to give access to the mill and a farm steading, and has one segmental arch, built of coursed sandstone rubble.

Returning to the main river, Balerno sees the start of the Water of Leith Walkway which extends to the mouth at Leith, only departing from one or other bank for short stretches. The path, just less than 20 km long is maintained by Edinburgh City Council, but as with many of the city's open spaces, a voluntary body, in this case, the Conservation Trust, which has a centre beside the river at Slateford, in the shadow of a railway viaduct and an aqueduct carrying the Union Canal, plays a valuable part. This organisation and many other authors have produced documents which allow me to narrow my remit henceforward to tributaries, watermills and bridges, together with a very few buildings right on the river-bank, as discussed earlier. For those who do not know Edinburgh well, I would recommend the remainder of the account is read with a map showing districts and street names. A roll-call of places on the river banks, is Currie, Juniper Green, Colinton, Slateford, Longstone, Saughton, Stenhouse, Ballgreen, Murrayfield, Roseburn, Belford, Dean, Stockbridge, Canonmills, Powderhall, (where I view it daily from my 4th floor flat window), Warriston, Bonnington, and Leith, (where the river is channelled through Albert Dock into Western Harbour and thence out into the Firth of Forth). I shall pause at a few of these places, but attempt no continuous description.

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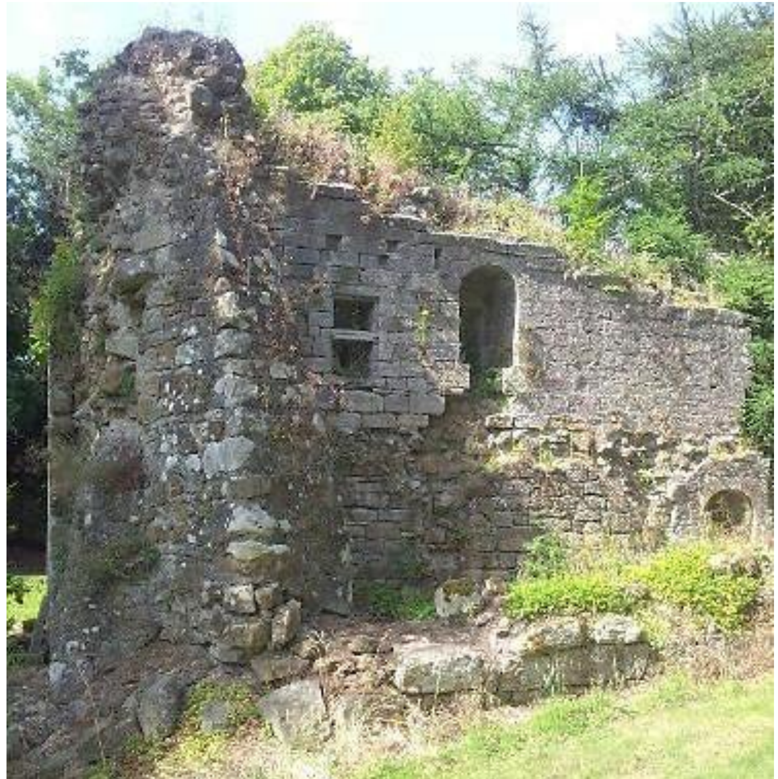
My first such stop is in Currie, which is one of a number of Edinburgh suburbs which retains some of the feel of a village, especially near the parish church; a previous name, Kinleith, survives as the name of farms and physical features. Here is found Lennox Tower, the second and last bona fide castle to be encountered on the banks of the river. The ruin is in the private grounds of Lymphoy House, a 19th century mansion, 11km south-west of the centre of Edinburgh. The castle was built in the late 15th century by an Earl of Lennox, as a large rectangular tower of dimensions 17.4 X 10.4m, with walls up to 2.1m thick. It passed into royal hands, being

utilised as a hunting base by King James VI, before it was acquired by George Heriot, that King's goldsmith (and banker), in Edinburgh, and after 1603 in London. His children died before he did in 1624, and most of his fortune was left to found the school named for him. The tower was deserted later that century, and its remains shown alongside, comprise walls of a vaulted basement with 3 chambers, and traces of a staircase and a hall above. There is thought to have been a barmkin, and a moat fed from the nearby river. It is alleged that there was a passage between an earlier Lymphoy House and the tower, and that during a siege of the latter, a piper was sent into it to seek aid, but never seen again, though his pipes are sometimes heard echoing underground. Curiously, as a pupil attendee at the aforementioned school, I remember hearing a similar tale, but of a boy piper lost in a passage between the school chapel and Edinburgh Castle.



A short distance downstream, prominent above the right bank stands Currie Kirk, a striking late-18th century building, but with a predecessor recorded in the 13th century, which survives in the lower stone courses of a building to its east. They survive from the chancel of the old church, converted to a free standing burial vault, at some time after the Reformation, perhaps in the 17th century. Access from the north is by way of a road, called Kirkgate, across a bridge spanning the Water of Leith, which is also of interest. Records of a bridge here go back to the 16th century, but the present structure is not as old as that. However, the RCAHMS account which dates it to c1900 appears incorrect, and I would suggest that the older bridge was replaced at some time during the decades immediately before and after 1800. Watermills were close-packed along this stretch of the river, as can be seen in Table 1. A few hundred metres downstream from the church, the river is joined on its right bank by the Kinleith Burn, a short but rapidly flowing stream which rises on the north slopes of Harbour Hill in the Pentland Range. Its valley is known as Poet's Glen, named for James Thomson who lived nearby and helped to bring up 9 children. Known as the weaver poet, he lived from 1763 to 1832, and produced 2 volumes of poems in the Scottish vernacular. I have seen too little of his work to comment further.

Watermills were also a major feature of the next village encountered, Colinton, though street names rather than surviving buildings are the main pointers. I pause to highlight Spylaw snuff mill and the mansion which James Gillespie attached to it in 1773; he was another of Edinburgh's philanthropists leaving money to endow the school which still bears his name, and a hospital for the aged poor. In the eyes of his contemporaries, Gillespie was thrifty to the point of mean-ness, yet he attracted a memorable epigram when a local politician, Henry Erskine, seeing him pass in a fine carriage said 'who would have thought it, that noses bought it'. The

bridges and church in Colinton are of the 19th and 20th century, and some large houses there of similar vintage were designed by the noted architect, Sir Robert Lorimer whose family lived there. Colinton is linked to the next downstream village, Slateford, by the riverside walk through Colinton Dell, where one can hope to see kingfishers, and other less exotic examples of riverside wildlife.

Slateford had its origins as a village on the left bank of the river, beside a ford, but the few buildings which remain are now dominated by two impressive 19th century river crossings. The aqueduct which carries the Union Canal over the Water of Leith, and the adjacent road north, named Inglis Green Road for a 17th century bleachfield, is the easternmost of three along the canal length which cross Lothian rivers. Like the others, it was built by Hugh Baird to the design of Thomas Telford, who also exercised general supervision, and it comprises 8 semi-circular, stilted arches, each spanning 15.2m to give a total length of 183m. Water is contained in an iron trough, 2.1m deep and 4.1m wide, and there is a tow-path on the north bank. Completed in 1822, it is Listed, but along with its two sister-structures, it really ought to attract more interest, as together they were an engineering marvel of their age. There is an overflow from the canal into the Water of Leith, and as a child, well over 60 years ago, I remember seeing the stream of water falling over 20m, and wondering if the canal was leaking. The photograph, a view from the south and taken from Wikipedia, shows in the foreground, the river arch of the aqueduct, with water dribbling from the overflow, and behind it, the viaduct carrying the railway. The latter, which was completed in 1842 comprises 14 arches, carries 2 tracks and has a total length of c180m; it probably deserves more consideration than I give it here, but it does stand in the shadow of its companion structure, in more ways than one.

A short distance further downstream in Longstone, the river receives a small left bank tributary, the Murray Burn, which rises on the eastern slopes of Dalmahoy Hill. It flows a total of 9km, but in its early course is little more than a ditch separating fields. The stream has grown a bit, by the time it flows round the south and east boundaries of the Heriot-Watt University campus on Riccarton Estate, just west of the city boundary. The university has had a varied life, beginning as an Art College in 1821, but becoming the Watt Institution and College of Arts in 1855, a signal that mechanical engineering had become a key part of the curriculum. In 1885, its finances collapsed, but it was bailed out by the wealthy Heriot Trust (which had built on George Heriot's legacy), on conditions that the name became Heriot-Watt College, and that the college submitted to financial supervision by the trust. The tie-up was loosened in the 1920s when the college re-assumed responsibility for its own financial affairs, although it still depended on an annual donation from the trust. Throughout the 20th century, the institution assumed more and more of the functions and attributes of a

university, albeit with an emphasis on engineering and other areas of applicable knowledge, until in 1966 it was granted full university status along with a number of other prestigious technical colleges. At the same time, the decision was taken to relocate to the Riccarton estate, from the centre of Edinburgh, and specifically from the north side of Chamber's Street, opposite to the Royal Scottish Museum. By 1992, the move was complete, though since then campuses have been established in places as diverse as Galashiels and Dubai. The Murray Burn is augmented by a couple of small tributaries with origins in the Riccarton estate, one the outflow from a small loch, before it turns eastwards, flows under the Edinburgh bypass, and the Union Canal and then disappears into a culvert. Its approximate course is easily enough followed beneath such roads as Murrayburn Drive, and Murrayburn Road, before it emerges on the north side of Longstone Road to flow above ground for a few hundred metres past the high walls of HM Saughton Prison to meet the Water of Leith.

Saughton Mills were just to the north-east of the prison site, and in 1511 they were rented by Holyrood Abbey to a family called Stanhope. A few years later they built an adjacent mansion, and altered the name to Stenhouse, but in the early-17th century the house was sold to an Edinburgh merchant called Ellis. Most but not all of the present building resulted from changes made by him, and he left his crest above the entrance, together with a date-stone inscribed 1623. The house was restored sympathetically by the National Trust for Scotland who owned it for a large part of the 20th century, and as shown in the photograph taken by Ms. Burgess, it retains much of the appearance of a 16th/17th century building.

After passing under the A71, (Gorgie Road), the river skirts Saughton Park which was once at the centre of great events. Formal gardens had been laid out there in the 17th century for Saughtonhall House, a long-gone mansion. The site was acquired by Edinburgh Corporation in the early years of the 20th century, and a 2nd Scottish National Exhibition was held there for 6 months beginning on 1st May 1908, and attended by almost 3½ million visitors; (the first Exhibition had taken place in the Meadows in 1886, and had attracted similar numbers). The scale was remarkable, with pavilions, exhibition halls, an amusement park with 8 roller-coasters and a water chute; bizarrely there was also a 'colony' of 70 French-Senegal black Africans living in bee-hive huts, supposedly reproducing their homeland life-style as visitors streamed by. These events, and contemporaneous exhibitions in Glasgow, speak for real ambition, matched it must be said in fairness during more recent decades, by the founders of Edinburgh Festival, and perhaps by the organisers of Commonwealth Games in the two cities. After the clearing-up operation, extensive gardens were laid out which meant that the site remained a major attraction for many years. A restoration scheme is currently underway with the intention of returning the park to something like the condition of its glory days.

It is time to consider another tributary, which although hardly 2km long, and now flowing almost entirely underground, had at least 3 names, namely the Megget Burn, the Moat Burn and the Gorgie Burn. Its source is a spring on the north slope of Easter Craiglockhart Hill, which rises to 157m, 3km south-west of the city centre, and it flowed from there eastwards down the 'Happy Valley'. In 1873, the stream was dammed to form a pond, which was used for curling, skating, and presumably for boating. Other attractions including a bandstand, tea-rooms and a dancehall were provided in the surrounds, but more ambitious plans which would have mimicked the great London pleasure parks were never quite brought to fruition. At the head of the valley, Craiglockhart Hydropathic opened in 1880 to provide treatments using the spring water, but it acquired more notice later as a convalescent home for shell-shocked officers during the 1st World War, when the poets, Siegfried Sassoon and Wilfrid Owen, were amongst those who spent time recovering there; now the building forms part of Edinburgh Napier University. Alongside is a tennis centre which had grass courts in the 1950s and 1960s and so attracted the best (amateur) players in the world to play in annual tournaments prior to the Wimbledon Championships. Sadly, easily-maintained hard courts have been laid and stars of the tennis world are rarely if ever seen there any more. The photograph above is a view looking west across the pond from Craiglockhart Woods towards the houses of Lockhart Avenue, with a white sports centre on the left.

Water leaks from the north-east end of the pond into a boggy area, where marsh plants grow, and no more than 200m down the valley, (it is hard to see exactly where because of the lush growth), the water is collected into a culvert and continues its journey. The clues as to the rough location of the hidden stream are in the street-names above it, so a succession of 'Meggetlands' takes it north-east then north, to be followed by 'Moats', and then by 'Gorgies'. When I passed through the latter area daily on my journeys to and from school by bus in the 1950s, a mill lade, leading from the Water of Leith at Stenhouse by way of some working mills to Roseburn, was visible near Ballgreen, and it was into this lade that the piped Gorgie Burn discharged. Now with the lade filled in, such water as the burn still carries is piped further north to empty through a hatch in the right bank of the Water of Leith at Murrayfield.

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I will now digress to put in context the next two tributaries encountered on the journey along the river. Travelling around the city today and ignoring the obvious background presence of the Firth of Forth, there is little sight of water, whether stationary, as in lochs, or flowing, as in rivers and their tributaries, unless one knows where to look. In the case of the former, there is a cluster of lochs round Arthur's Seat, including Duddingston Loch, much shrunken since medieval times, and two artificial lochs in the Queen's Park, created in the 19th century. Otherwise, there are some large ponds, one beside the Blackford Hill, and another just described, beside the Craiglockhart Hills, and others in parks named Inverleith, Figgate and Lochend. As for flowing water, the Water of Leith, seemingly bereft of above-ground tributaries once past Currie, and the much smaller Braid and Niddry Burns, with their various pseudonyms, are the only streams within the large city area

of 264km^2. In the late medieval period, the situation was quite different, and the Water of Leith collected the overflows from a number of the lochs which existed then. Before embarking on brief descriptions of these long-gone features, I shall mention for completeness two of note which were separate from the Water of Leith system, namely the artificial, and by all accounts, noxious, Nor Loch which was formed by damming an east-flowing stream in c1450. It occupied the area of Princes Street Gardens, and overflowed into the continuation of the long-vanished stream, through a valley running east to Portobello. The loch had been the venue for suicides and judicial drowning of witches, and a depositary for sewage and all types of rubbish before it was drained in c1800. Even earlier, a loch occupied the Grassmarket to the south of the castle, but it was probably drained before 1300, and certainly had no connection to the Water of Leith at any time.

More relevant to this account, filling the area now occupied by the Meadows to the south of the ‘old town’, was the Burgh or South Loch, which overflowed by way of the Dalry Burn into the Water of Leith at Roseburn. Although the loch had provided water of dubious quality for many of the citizens in its part of the city, other supply arrangements were being put in place by the late 17th century (Appendix 1). Accordingly, ambitious plans to drain the loch emerged, presumably to provide building land, and the first steps were taken at that time. However the process was costly, bankrupting one of the main projectors called Hope, and a century later, swans and ducks were still able to swim on the western portion of the loch. In an effort to speed progress, a proposal was put forward to cut drainage ditches leading east, but this was strongly opposed by farmers in then-rural Dalry who were extracting water from the Dalry Burn, to irrigate their crops. By all accounts, they must have been getting more than water, since the said burn was carrying sewage which reputedly produced a stench discomfiting all who lived near it, and although diluted when it entered the Water of Leith, the effluent continued to be a serious nuisance for some distance downstream. However, the Burgh Loch had vanished by the 19th century, remembered only by street names, leaving today’s large grassed recreation area, the Meadows. Water still drained into the Dalry Burn, which was cleaned up as proper sewage systems were put in place, making it a more agreeable power-source for at least one mill. The burn is no longer visible at any point, as it is piped beneath Lochrin, Fountainbridge, and Dalry, all now occupied by housing and commercial sites, with working farms not even a distant memory, and such water as it carries reaches the Water of Leith unglamorously through two pipes on the right bank, just upstream from Roseburn.

Perhaps Corstorphine Loch was even more significant in the story of the Water of Leith. In medieval times this body of water lay south of Corstorphine Hill, and was bounded on the west by the old village of Corstorphine. It is recorded that a lamp was always kept burning there, perhaps near the present Lampacre Road to warn travellers that they were approaching the loch and its boggy surrounds; nowadays a lit lamp is maintained behind a window of the ancient village church as a reminder. The eastern limit in those days cannot be as clearly defined, with Roseburn normally suggested, but with some old accounts and maps suggesting that the loch may once have extended even further east towards Haymarket. In either case it seems likely that during the medieval period, the Water of Leith flowed in and out of the eastern end of the loch. However, by 1630 the Pont atlas shows a shrunken Corstorphine Loch with the east bank at Saughtonhall, with a stream connecting its east end with the river, close to Roseburn. The said stream was part of the 17th century, Great Corstorphine Drain, an impressively-named artificial channel known to all during my Corstorphine boyhood, as the Stank. Another leg of the Stank carried water eastwards from the Gyle Loch, to the west of Corstorphine

and south of the main road to Glasgow, into Corstorphine Loch. By the time of Moll's map of 1745, the Gyle Loch was much reduced in size, though Corstorphine Loch remained much as it had been a century earlier. However, in a map dated to 1821, the latter had completely vanished, leaving a low lying area rising gently to the south and west, now occupied by a golf course and housing, Carrick Knowe. The Stank must by then have been a slow-moving stream running uninterrupted from the Gyle, which had been reduced to boggy fields with small pools of open water, to the Water of Leith near Roseburn. This remained the situation in the early 1950s, when I lived nearby and watched many kids filling jam-jars with sticklebacks, leeches, and occasional frogs fished from its shallow, but apparently clean waters. A few years later, the Gyle was properly drained to allow the Royal Highland Show to be held there, prior to its move to a permanent home a few kilometres west at Ingliston; now the Gyle is occupied by housing, offices of financial organisations, moved from the centre of the city, and a large retail park. As for the Stank, the reclamation of the Gyle greatly reduced its flow, and it has been piped below ground all the way from there, through to its exit grill on the left bank of the Water of Leith, near Roseburn, shown in the photograph taken by Dr. Alastair Robertson; something of a come-down for a distinctive if not very attractive part of the landscape of our youth.

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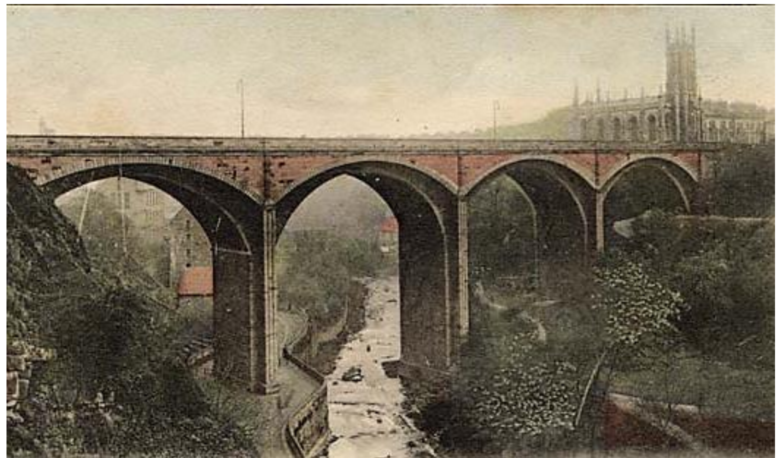
At this point, the river is still in the shadow of the Scottish Rugby Union grandstands, where I watched some Scottish triumphs, but suffered more disappointments, or so it seemed, between the early 1950s and a few years ago. The stadium, as I first knew it, was a shallow arena mostly exposed to the winter elements, holding 80000 mainly standing spectators, though I was present once when 107000 were alleged to have crowded in. Now 65000 watchers are seated, and largely shielded from icy blasts and sleety rain; progress in most eyes I suppose, but in mine, a uniquely austere northern atmosphere has been lost. Moving on, the Water of Leith flows under the A8, here named the Corstorphine Road, the main road between Edinburgh and Glasgow. The present bridge was opened in 1841, and substantially widened in 1930, but just to its north is its predecessor, Old Colt Bridge, which opened in 1766, but is now pedestrianised. It comprises a single random-rubble arch spanning15.2m, (how often that span, also 50 feet, seems to recur hereabouts!), and of width, 6.1m, commensurate with its turnpike status. During its construction, an upstream weir was breached to lower the river level and facilitate the work, but the owners of 2 Coltbridge mills, had to be compensated for the reduction in water supply. A few years earlier, the crossing had been the scene of a skirmish which has the derisory name of the Canter of Coltbridge. In September 1745, the Jacobite army of Bonnie Prince Charlie

was approaching Edinburgh, and a reconnaissance party encountered regiments of the Royal (Hanoverian) army entrusted with the defence of the river crossing. A few shots were enough to send the Hanoverians fleeing through the city, leaving it defenceless and able to justify its precipitate surrender to the Prince.

From here, the river flows north-east in a deepening valley between Coltbridge and the mansions of Coates, passing under the impressive viaduct, more than 200m long, which carried the Caledonian branch railway linking Granton, and later Leith, to the company's station at the west end of Princes Street. Completed in the early 1860s, the line remained open for a century, but as with most of Edinburgh's once extensive suburban network, the rails were lifted a while ago and only a walkway remains, Early plans for Edinburgh's modern tram system incorporated the branch line, but overspending soon scuppered that idea. There are landmark 19th century buildings high above each bank, Donaldson's Hospital on the right, and John Watson's College (now the Scottish National Gallery of Modern Art) on the left, but I shall leave their descriptions to Gifford et al. The river here is in the so-called Roseburn Corridor which is in a surprisingly large wilderness area, near the heart of the city, before it swings east at 'the Cauldron', a pool created by the weir directing water into a left-bank lade which brought water to the mills of Belford. The mill village of Dean is next along the course; here there are mill-related buildings dating to the 17th century, (I again leave descriptions to Gifford et al), but milling is known to have taken place at least 6 centuries earlier. Reference to Tables 1 and 2 will show that flour and woven cloth were the main products of a series of closely spaced mills.



Dean Village is in the shadow of Thomas Telford's Dean Bridge, completed in 1831 when the great engineer was 73 years old. The bridge eliminated a steep climb at each end of a bridge in the village, so improving the route from Edinburgh northwards by way of the ferry at Queensferry, and it made a swathe of land to the north-west of the New Town attractive to developers. The project was not straightforward, in that problems with obtaining secure foundations forced Telford to increase the number of arches from 3 to 4, each spanning 27.4m, to give a length of 136m; it is 32m above the normal water level in the river. The fabric is sandstone, and there are some characteristic 'Telford' features, like the sandwiching of the main structure between more delicate arches supporting the walkways and parapets, and the hollowing out of the piers and spandrels to reduce weight. Unfortunately, the parapets had to be raised, compromising the slender aspect, to make it more difficult for potential suicides to jump from the bridge. The old postcard looks from the east; it is not easy to gain a comparable view now because there are extensive private gardens in the river valley and buildings and trees block lines of sight.

The river is shallow and fast-flowing here, part of the explanation for the profusion of mills. On the right bank, downstream from Telford's bridge is the ornate building, which houses St. Bernard's Well,. The water trickling into the river here was by all accounts sulphurous and foul tasting enough to convince people in the 18th

century that its consumption must be beneficial. The pump room was built in 1791 to the design of a notable Scottish painter, Alexander Nasmyth, and comprises a mock temple with Doric columns around a statue of the Greek goddess of health, Hygeia, surmounting the finely decorated room in which the spring water could be imbibed, as shown in the photograph. It seems that decay must have set in because the building was restored a century after it had been built, though presumably by then, more as a monument than for imbibers.

This area of the city is Stockbridge, named for the medieval bridge over which cattle were brought to the city market to be slaughtered. The present bridge was built in 1786, commissioned by the famous and rich artist, Sir Henry Raeburn, who owned estates round about; the bridge was refurbished and widened in 1901. Raeburn was born in Stockbridge in 1756, but lost his parents as a child and was educated at Heriot's Hospital, before an apprenticeship to a goldsmith. As a painter he was self-taught, graduating by way of miniatures to portraits in oils, helped by an extended stay in Rome. Unlike most talented Scottish artists (Ramsay and Wilkie, for example), he never felt the need to set up in London, though he visited and received a few commissions from there. At that time, Edinburgh was still flourishing as one of the great centres of the Enlightenment, so Raeburn found plenty distinguished sitters, and is believed to have created nearly 1000 works, including of course the iconic skating portrait of the Reverend Robert Walker on Duddingston Loch. I lack the knowledge to comment usefully on his attributes, but his contemporaries were in no doubt, as he added to a knighthood, membership of the Academies in Edinburgh and London.

A short distance downstream, the only surviving above-ground trace of another left bank tributary can be seen. This stream originated as the outflow from a small loch to the north-east of Corstorphine Hill, in the area of Blackhall. The loch is shown in the Blaue atlas of 1662, and its overflow, joined by a stream draining the Ravelston slopes, appeared to follow a route north of Craigleith and Comely Bank, to reach the left bank of the Water of Leith. The loch is long gone and the streams must be reduced to piped drains, since nothing of them is visible, except for a cover, allowing some water egress amongst flood defence measures beside Arboretum Avenue. Also shown in the Blaue atlas is Canonmills Loch, which in medieval times occupied the area bounded now by Dundas Street to the west, Eyre Place to the north, Rodney Street to the east, and Royal Crescent to the south. Given that the loch was only a short distance south of the Water of Leith, logic says there must have been an overflow into the river, but its location is not apparent on any of the maps I have seen. During the first half of the18th century, most of the loch was drained, saving a small area at its north-east end. By then, a mill-lade was in place which received water on the right bank of the Water of Leith, near Dean Village, and supplied a number of mills as it travelled by way of Stockbridge, and Silvermills across the reclaimed area into the remnant of Canonmills Loch. A controlled outflow supplied a second lade, which continued through Canonmills and Powderhall, before feeding back into the river near St. Mark's Park. The remainder of the loch was drained in 1847, and the wider area had a varied history thereafter, accommodating

pleasure parks, the football pitch of a Scottish League club, St. Bernard's, and a now-defunct railway line and station, as well as offices and houses. As for the mill lades associated with the loch, they also are long gone, like the mills powered by the water they brought.

I know of no more tributaries, but not far downstream from where the lade from Canonmills Loch once returned its contents to the river, another mill lade was fed from the right bank at Redbraes Weir, serving mills at Bonnington, which produced flour from medieval times, and textiles, from the mid-18th century onwards. A waterwheel which powered one of these mills has recently been fixed into a small surviving portion of the mill lade as a monument to the past activities in the area. Interestingly, it was undershot, i.e., mounted so that the blades dipped into the lade so that the momentum of the flow pushed the wheel round. This is much the least efficient type, (see Appendix 2), but was presumably used because the gradient of the river here is too small to allow the water flow to be directed to a higher point on the waterwheel so generating more power.

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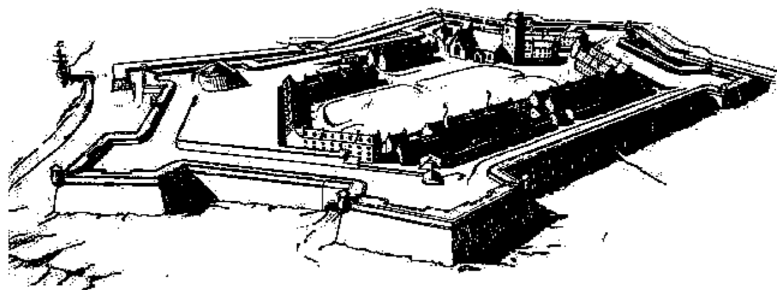
The Water of Leith completes its course by flowing through the port at its mouth, Leith. As the most important commercial centre in Scotland after surpassing Berwick-upon-Tweed in the 14th century, Edinburgh had need of a port. Leith was first documented in the 12th century, and probably began life as a collection of shacks and mean houses beside a beach, east of the river-mouth, on which cargo was landed in small boats from trading ships standing out in the Firth of Forth. The Water of Leith, then broader and shallower than now, offered no more than a sheltered landing place, but this was an improvement on an open beach and from the early 15th century staithes and warehouses appeared at what is now the Shore. Thereafter, Leith shared in the increasing trade of Edinburgh, but its progress was for long inhibited by two factors, firstly the tidal nature and shallowness of its anchorage, which led King James IV in the late 15th century, to choose Newhaven to the west, when he established yards to build a navy, and needed a base for it, and secondly by the continuing disputes with Edinburgh. The Royal Burgh had been granted the harbour by King Robert the Bruce in the early 14th century, but was not content with this, and sought to control all its surrounds and the means of access, and also to prevent residents of Leith from trading in competition with Edinburgh merchants.

The mid-16th century was fairly disastrous for Leith which was still no more than a village, as it was sacked twice by English invaders led by the Earl of Hertford (later Duke of Somerset) in the 1540s, and fortified and then besieged and captured during the Scottish civil war, ended by the Treaty of Leith in 1560. After Oliver Cromwell's conquest of Scotland, Leith Citadel was one of the forts built in the 1650s to the design shown above; its useful life came to an end with the Restoration, and only the east gate survives, isolated in Dock Street. The Union of 1707 and the access it gave to the empire undoubtedly benefitted Glasgow and the Clyde ports more than those in the east of the country, and nothing much was done to enhance the port of Leith for many years.



The eventual development of the port was based on the improvement scheme put forward by John Rennie in 1799. He recognised that the provision of deeper water at the quaysides was essential, and he proposed to achieve this by blocking off the direct path of the river into the estuary, instead leading it westwards through interconnected docks to Newhaven where deeper water could be reached. This vision was not fully realised for almost a century and a half, though it gave direction to a series of improvements, which transformed the port by greatly increasing the area of the wet docks, and providing dry docks; these measures also fostered a burgeoning ship-building industry. The roll call of new docks included the East Dock opened in 1806, and the Queen's Dock in 1817; then there was a pause, not least because the projects had bankrupted the city in the 1830s, but development continued with the opening of the Victoria Dock in 1851, the Albert Dock in 1869, the Edinburgh Dock in 1881, and the Imperial Dock in 1903, each one larger than its predecessor. Finally, in 1943, the jigsaw was completed by building a massive western breakwater and a long east pier to enclose Newhaven Harbour; access to the whole complex was thereafter through a lock at the exit to that dock, enabling deep-water to be maintained everywhere in the port at all times.

With hindsight, this looks like a commendable long-term development, but it probably did not look like that as improvements took place step by step over a century and a half. Matters had not been helped by the continued poor relations between the port owners, the Burgh of Edinburgh, and the growing township of Leith which got worse, when in 1833, Leith was incorporated as a burgh, along with other growing Scottish towns, Greenock, Paisley, and Kilmarnock. Of course, many 'Leithers' celebrated because they saw potential gains from running their own affairs, but from the start of its independent life the town had financial problems, not helped by the hostility of the nearby city. Its hand to mouth existence, presumably explains the modesty of the town hall and other municipal buildings, though it is their scale rather than quality which suggests that money was scarce. The burgh's penury became of critical importance at the end of the 19th century, because in a situation where populations everywhere were growing, Leith, which by then boasted 75000 people, and was comfortably amongst the 10 largest burghs in the country, had been unable to finance the Acts of Parliament necessary to obtain land for expansion, whereas Edinburgh had done so and was drawing a tight ring around the port, such that the two were more or less contiguous. The inevitable end of the process came in 1920 when the city applied to incorporate Leith, and the Act went through unopposed. By then, the two places were joined on the ground, and the smaller entity has probably gained from a logical outcome which has enabled it to share in the relative prosperity of its much larger neighbour.

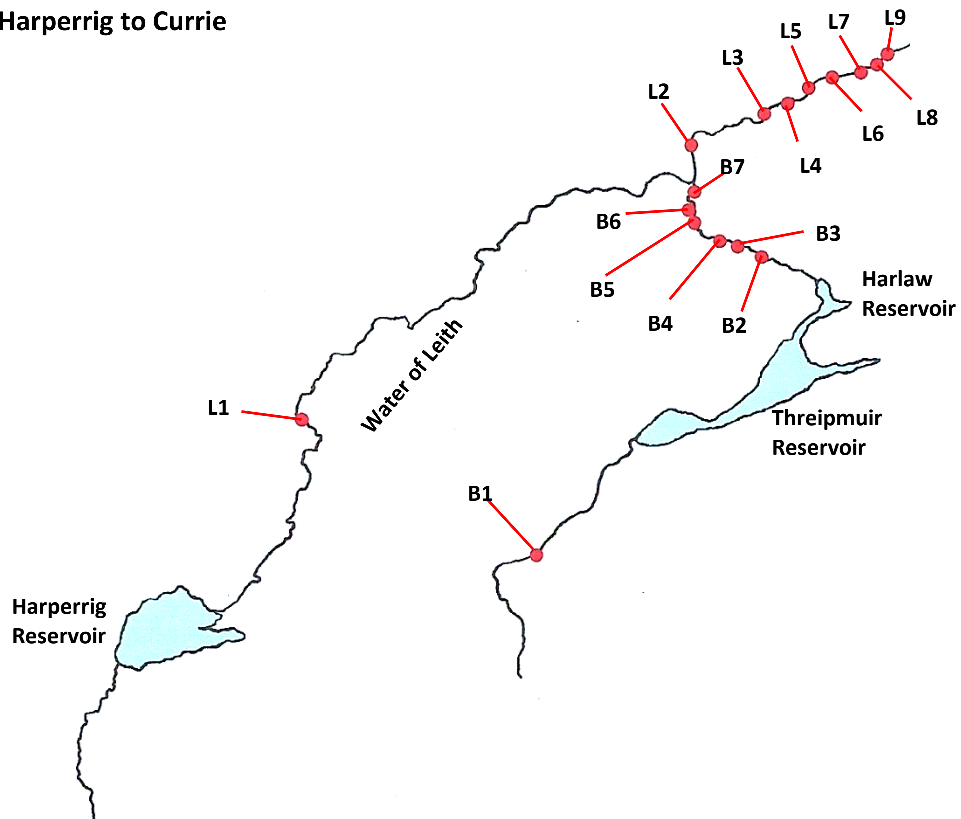
In recent years, shipbuilding has ceased, as almost everywhere else in the United Kingdom, and many commodities are traded less, but the loading of service vessels for oil-rigs in the North Sea has become important. Tourism associated with the ex-Royal Yacht, Britannia, now moored in the Western Harbour, and the massive liners that visit regularly in the summer months has become a staple. The largest of them cannot enter the docks so anchor outside in the Firth, and their passengers are brought to land by small boats, a bit of an ordeal when the water is rough, albeit of short duration, as they bounce up and down. The other big change all round the docks is the proliferation of housing developments, prompted by a new-found enthusiasm for living near water which has taken hold all over the country; it seems certain that there will be more of the same. There is one large retail centre and a few years ago it would have been predicted that others would follow, but that is less certain given the growth of internet shopping. The Water of Leith proceeds

from the Shore, once the location of staithes and warehouses like the King's Wark, but now populated by fashionable restaurants, and veers west into the Albert Docks Basin, and then into Western Harbour, from where its contents are released into the Firth of Forth, past the lock between the East Pier and the Western Breakwater, overlooked by high blocks of flats.

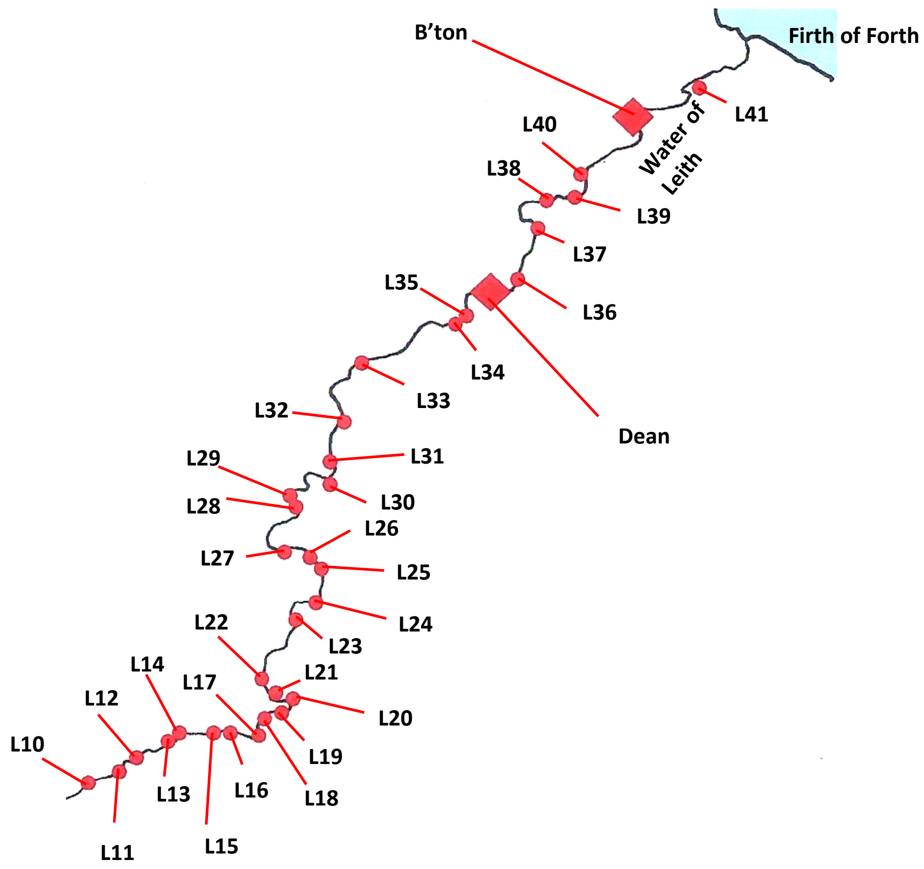
The Water of Leith is a relatively short river with an overall length of 29km, and the mean flowrate, 20,365 gallons per minute, (c2 tanker-loads per minute) makes it the smallest of the Lothian rivers dealt with separately here. Like some of the others, in particular, the Esk rivers, it runs through a number of deep post-glacial gorges cut in sedimentary rocks, so it is not especially visible, along a good part of its course through Edinburgh, for example at Colinton, Craiglockhart, and the Dean. In many cities, a linear park, like that along the river would be near-priceless, but Edinburgh is very well blessed with parks and other open spaces, so the river, and its banks, may be undervalued in that regard. With the exceptions of Telford's Dean Bridge, and Slateford Aqueduct the crossings are small and relatively unremarkable, and few if any of Edinburgh's more important buildings are beside the river.

It is worth emphasising that Edinburgh grew up around the castle rock and the ridge leading down to Holyrood Palace, rather than on the shore of the Firth of Forth, or on the banks of its small river. Even although the Water of Leith at Dean village, or Stockbridge is little more than a kilometre from the centre of the city, its deep valley was a real constraint to growth, and only in the past 2 centuries has the conurbation expanded to reach and cross the river. That process has gathered pace and it is now the case that all the villages once separated from the city by the Water of Leith have been absorbed. I have touched on one skirmish by the river, at Coltbridge, and it played a part in the manoeuvring of the armies of Cromwell and David Leslie in 1650, but the Water of Leith has never had a significant role in the defence of the city. For a long time the 'impregnable' castle rock was the city's defence, but in the gunpowder age it became a pushover for the likes of Lord Protector Somerset, Cromwell, and Bonnie Prince Charlie. I think the true significance of the river for the city has been for its industrial development. As listed in Table 1, the number of mills which have operated along a small river is remarkable, and as well as generating products which have fed the city, other mills have been key in the development of many of its industrial specialities like printing, brewing and textile manufacture. Of some cities it can be said that they owe their existence to their situation on a river. That is emphatically not the case for Edinburgh, but the Water of Leith has certainly contributed to the prosperity of the citizens over the years.

Water Mills on the Water of Leith and its tributaries



Colinton to Leith



Water of Leith

Table 1. Water of Leith Watermills

	Mill	Type		Mill	Type
L1	Leith Head	Corn, Grain, Flour, Meal	L25	Boag's	Textiles; Corn, Grain, Flour, Meal; Special
L2	Balerno New	Corn, Grain, Flour, Meal	L26	Jinkaboot	Corn, Grain, Flour, Meal
L3	Balernoch	Textiles	L27	Inglis Green	Textiles
L4	Currie	Corn, Grain, Flour, Meal	L28	Slateford	Paper
L5	Balerno Paper	Paper, tannery	L29	Saughton/ Stenhouse	Corn, Grain, Flour, Meal
L6	Kenleith	Paper	L30	Dalziel	Corn, Grain, Flour, Meal
L7	Currie East 1	Corn, Grain, Flour, Meal	L31	Gorgie Gelatine	Special; Textiles
L8	Currie East 2	Saw mills, coopers	L32	Murrayfield/Dalry	Corn, Grain, Flour, Meal; Special
L9	East Mill Bank	Corn, Grain, Flour, Meal	L33	Coltbridge	Corn, Grain, Flour, Meal
L10	Woodhall Board	Paper; Textiles	L34	Bell's	Corn, Grain, Flour, Meal
L11	W'hall Bank	Corn, Grain, Flour, Meal	L35	Bell's Sawmill	Saw mills, coopers
L12	W'hall Bank	Saw mills, coopers	Dean	Dean 11 wh.	Corn, Grain, Flour, Meal
L13	Curriemuir	Corn, Grain, Flour, Meal		Lindsay's	Corn, Grain, Flour, Meal
L14	Mossy	Paper		Mar	Corn, Grain, Flour, Meal
L15	Upper Spylaw	Saw mills, coopers	L36	Greenland	Corn, Grain, Flour, Meal
L16	West, King's	Corn, Grain, Flour, Meal	L37	Stockbr. Tod's	Corn, Grain, Flour, Meal
L17	West 1	Paper	L38	Silvermills	
L18	West 2	Textiles	L39	Canonmills	Corn, Grain, Flour, Meal; Paper
L19	Spylaw	Paper; Special	L40	Logie Green	Saw mills, coopers
L20	Spylaw Kirkland	Textiles; Corn, Grain, Flour, Meal; Saw mills, coopers	B'ton	Bonnington 1	Paper
L21	Davie's	Corn, Grain, Flour, Meal		Bonnington 2	Textiles
L22	Hailes	Textiles; Corn, Grain, Flour, Meal		Bonnington 3	Corn, Grain, Flour, Meal
L23	Redhall	Corn, Grain, Flour, Meal; Paper	L41	Leith Sawmill	Corn, Grain, Flour, Meal; Saw mills, coopers
L24	Kates	Paper			

Tributary

Bavelaw Burn

	Mill	Type
B1	Bavelaw Mill	Other/unknown
B2	Glen	Textiles
B3	Malleny	Textiles
B4	Harmony	Textiles
B5	Balerno Bank	Paper
B6	Cox	Leather
B7	Byrnie's	Paper, Saw

The total number of mills listed in Table 1 is 48, allowing somewhat arbitrarily 4 Dean Mills in which there were 11 water wheels. (It is known that some mills housed more than 1 water wheel)

Of these, 28 were for at least some time, in the generic category, 'corn mills, 12 were textile mills, 13 were paper mills, 8 were saw mills, (all but 1 producing barrels) 2 were tanneries, 4 were special (snuff, gelatine,

etc.), and 1 was of unknown type. (these numbers allow for changes of function over the lifetimes of the mills, hence the total far exceeds 48).

The mills which have been listed are those which operated at some time in the 18th, 19th, and 20th centuries and appear on maps dating to that period; obviously there will have been mills much earlier than that, and a few of them account for discrepancies between the main text and the tables. No doubt, some of them were on the sites occupied by later mills, but I do not have the information needed to place them.

Within the Water of Leith catchment area, 11 Threshing Mills have been identified, all in the upstream portion outside the city. They have not been included in the Table, because they cannot be viewed in the same light as other mills. They rarely stood alone, but were usually tagged on to an existing mill, or housed in a shed on a farm steading. It is often not possible to differentiate between those which were powered by water, and those driven by a circling horse, or later by a motor. That is in no way to underplay their importance economically and socially as, discussed in Appendix 2.