5. Lesser Streams of Fife and Clackmannanshire

Apart from the three rivers of Fife and Clackmannanshire, the Rivers Eden, Leven, and Devon, which have been followed from source to river-mouth, there are a number of lesser streams which I track in this wash-up article. I have not chosen them entirely on the basis of physical features like length or discharge rate, but to a degree on grounds of interest. Ordered from the north-east, the streams considered are as follows;

1. Kinness Burn

2. Kenly Water

3. Keil Burn

4. Lyne Burn

5. Bluther Burn

6. Black Devon River

I deal in rather less detail with these streams, than the rivers, but otherwise stick to the format of following the course, considering points of interest, but not straying too far from the banks. Table LS1, at the end of the article, gives details of the mills on these streams, which operated in pre-modern times (18th-20th centuries)

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1. Kinness Burn

The stream rises at a height of c135m on the north side of Clatto Hill, at Grid Point NO 434 161, and flows more or less due east for c9.3km to enter the sea at St. Andrews Harbour. Though still interspersed with arable fields, the scenery near the source is quite rugged for east Fife with pasture and areas of woodland prominent on rolling hills. To the south, is Magus Muir, now mainly farmland, but a near-deserted moor in May 1679 when Archbishop James Sharp was hauled from his carriage and murdered there when trying to complete the final stage of a journey to St. Andrews after pausing at Ceres; the circumstances are more fully described in the article on the River Eden. The burn passes to the south of Strathkinness, originally a linear village along the top of a ridge. In the past, agricultural workers, weavers and quarrymen lived there, but the population has never exceeded the present 950, who mainly commute to towns like Leuchars, Guardbridge, and St. Andrews.19th century maps show that just east of Strathkinness, was Denbrae Corn Mill, and beside it a lintmill opened in 1775, which was converted into a saw-mill in the mid-19th century. The former has a much longer history, built as Goukston Mill in c1500, it was known as Dewars Mill for 2 centuries after the Reformation; it assumed its present name in the 18th century, and operated until the early 20th century.

A few hundred metres downstream, the burn enters the town of St. Andrews, and is joined by a right bank tributary produced by the coming together of the Lumbo Burn and the Cairnmill Burn. Cairns Corn Mill on the latter is said to date back to before 1140 when it was handed over to the Cathedral-Priory by the Culdees (monks) of the Celtic Church; it vanished in 1867 when the Burgh of St. Andrews built a reservoir there.

Law Corn Mill stood where Lumbo Burn joins the Kinness Burn, and was possibly also of great antiquity, but certainly documented in 1570. Its modern history began in 1757, when a breast-shot water-wheel was installed, and it continued in operation until 1913; since then restorative work has been carried out on surviving buildings, but it still finds a place on the 'Buildings at Risk' register, with the skeletal remains of a waterwheel shown alongside, a possible indicator of why. The Lumbo Burn is only a few kilometres long, and rises beside the hamlet of Denhead, which has memories for me. In the early 1920s, my father, then about 10 years old, lived on Drumcarrow Farm, c3km south-west of the school which he attended in Denhead; he regaled my brother and me with many tales of the trials of the dame (teacher), educating a roomful of children of all ages. In the early-1960s, whilst on holiday in St. Andrews, we were taken to see what had sadly become a dilapidated shed, though it has since been renovated as a cottage. Nearby, is a destination for family days-out then and now, Craigtoun Country Park, which had been acquired by the local council from the Melville family in 1947; its landscaped grounds housed such attractions as a rowing lake, a miniature railway and a Dutch village, while the Edwardian mansion at its centre was then a maternity hospital.

Returning to the Kinness Burn it has entered the Lade Braes, a linear park along its banks. The lade in question supplied water from the burn to mills beside Priory of St Andrews; there is uncertainty as to when it was built but it probably existed long before the first written reference made in 1479. The lade drew off water from the Kinness Burn, 2½km from the destination, behind a weir just downstream of Law Mill, and followed a route on the left bank which, while gradually descending, arrived at the two Priory mills, the Abbey Mill, and Shore Mill well above the burn. The water was probably meant for their exclusive use, but for as long as the lade was open, residents of the town used it for washing clothes, cleaning fish, and possibly for drinking; most of it was covered during the 19th century for public health reasons. The tail race from Shore Mill enters the harbour through an outlet which is still visible at low tide. The Lade Braes Walk dates from the mid-19th century, with the section towards Law Mill and beyond to the west, being landscaped and planted with trees, some years later. Much of the information presented here comes from a website, ladebraes.net.

Continuing downstream, the next mill was called New Mill, albeit that the name is deceptive as it was documented in 1550, and must have operated before then. Buildings still stand which were part of the complex in the 17th century. It was a corn mill, at least until 1866, but there seems to be confusion as to whether it closed then, or was incorporated into a wauk (cloth thickening and softening) mill, which had started operating on the same site in 1797. This latter mill was called Plash Mill, something of a generic term for the type. St. Andrews Botanic Garden is a short distance further downstream, on the right bank; the garden

moved to this 7.5ha site in 1960, though it had been founded as long ago as 1889 on university-owned ground. As might be expected, a number of habitats are replicated, outside and in glasshouses, and many plant species are grown. It is not my intention to use the fact that the Kinness Burn flows through St. Andrews to embark on any kind of general history and description of the iconic town, which can easily be found elsewhere. Instead, I will stick fairly close to the banks of the stream, which at this point leaves the relative seclusion of the lade braes, and becomes visible from various streets in the town. Kinnessburn Road is an example with solid houses on one side, and the burn with a healthy population of ducks on the other.

Abbey Mill occupied a site now within St. Leonard's School, and a reconstruction in 1393 is documented, so it stood in some form before then, though whether as far back as the 12th century is conjecture only. It was rebuilt in 1832, with the waterwheel replaced by a steam engine, (which appears to have increased the thirst for water); it continued to grind corn until the 1890s, but was demolished shortly afterwards. Shore Mill was built in c1518 to serve the town, because the Priory wanted exclusive use of Abbey Mill. The lade was extended to supply water to Shore Mill, which stood on the harbour quayside. It operated until 1870 and some of its ancillary buildings can be seen just to the left of centre in the photograph. In medieval times, with the earliest records dating to 1222, the harbour was used by fishing boats, trading ships and by journeying church dignitaries, and simply comprised the banks near the mouth of the Kinness Burn, on which vessels beached themselves to allow loading and unloading. By the 16th century, quays and piers had been built, the inner and outer harbours had been separated, and the harbour was protected by a bulwark, round which the Kinness Burn flowed to reach the North Sea. Although much of the structure was rebuilt in the 18th and 19th centuries, the configuration remained the same; it is a tidal harbour used only by small boats now, as in the photograph; the gates intended to maintain the water depth in the inner harbour may not be much used.

The lowest reaches of the Kinness Burn are dominated by the ruins of the great Cathedral of St. Andrews, some of which can be seen above the left bank in the photograph of the harbour, so it would be remiss to say nothing of it. The date of foundation of the first religious establishment in a place then known as Kilrymont, is lost but there was certainly a monastery and probably a bishopric by the early 8th century. By the middle of the 10th century, it was the headquarters of the Scottish church, and home to a community of Culdee monks, who continued to follow the rules introduced from Ireland by St. Columba, as opposed to those of Rome. Queen Margaret, King Malcolm Canmore's wife from c1070 began to Romanise the Scottish church, but it was her youngest son, King David I who established in 1144 an Augustinian priory in St. Andrews, and the Culdees retained a strong presence even then. It is likely that the cathedral at that time was St. Rule's church built in the 11th century with a 33m high square tower; the building was lengthened early in the 12th century, (it is prominent on the left of the harbour view).

The new cruciform priory-cathedral church was founded in the mid-12th century and probably took a hundred years to build; it was very large by Scottish standards, (120m long). By the middle of the 13th century, the Culdees had been granted another church, St. Mary of the Rock, and the possession of the cathedral solely by the 30+ Augustinian canons was confirmed. Unsurprisingly, the buildings of the cathedral/priory deteriorated after 1560 as the Scottish Reformation took hold, though some canons remained and it was run by a commendator charged with its maintenance. In 1606 the priory and its possessions were converted into a temporal lordship, but the status of the cathedral oscillated for nearly another century, as power swung between Episcopalians and Presbyterians. Eventually in 1689, the latter triumphed, ending the role of St. Andrews as Scotland's ecclesiastical centre and the useful life of the cathedral which was reduced to its present state by quarrying and general decay, though hopefully the deterioration has now been arrested. The photograph is a view looking east along the nave from the west door towards the crossing and chancel.

The Kinness Burn is in most regards unremarkable, setting aside the value, as an amenity to residents of St. Andrews and visitors, of the Lade Braes. However, the information available on the aforementioned website, and elsewhere, on the history of the water mills powered by the burn, going back many hundreds of years, is almost uniquely detailed.

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2. Kenly Water

The Kenly Water enters the North Sea 7½km south-east of St. Andrews; its short course is north-easterly, only c6½km long. It is formed at the confluence of Cameron Burn and Wakefield Burn, north-east of the village of Dunino, and either adds more than 10km to the length measured from a true source; I shall look first at the former. In 1911, Cameron Reservoir was created to supply St. Andrews with water by damming the burn, and it is arguable that its outflow could now be taken as the source. However earlier maps show the burn rising a little further to the west, at Grid Point NO 449 108, and at a height of 154m; measured from here, including its passage through the reservoir, it travels 10.5km to the confluence which forms the Kenly Water. Ms. Provan's photograph, looking north-east shows the stream on the point of entry to the reservoir, which can be seen in the background. This body of water, which has a surface area of c69ha, is shaped like an elongated rectangle

aligned east/west, and apart from its water supply function, it serves with its surrounds as a valuable nature reserve and fishing lake. To the north is the hamlet of Cameron, where the church of a large rural parish has been located since the Reformation, though the present building dates only from c1800 and is functional rather than decorative.

The course of the Cameron Burn is eastwards between arable fields until the hamlet of Stravithie is reached. Near the left bank of the burn at this location, there was a moated castle, built by the Lumsden family and held amongst others by the Regent Moray, shortly before his assassination in 1570, but it was demolished in the 18th century, leaving no trace. Stravithie Corn Mill, now converted into a house dates from then, and may incorporate timber and stone from the castle. On old maps, there are hints of other mills, at Letham, and a second in Stravithie, but I have found no conclusive evidence for them. A short distance further downstream Cameron Burn reaches the confluence which forms the Kenly Water, the end of a rather mundane passage.

The stream which will become Wakefield Burn rises to the west of the hamlet of Largoward, at Grid Point NO 453 077, close to the 200m contour. It is named the Lathockar Burn here, and starts off north-eastwards, crossing the A915 Leven to St Andrews road, between the aforementioned Largoward and another hamlet named Lathones, both pleasant but with relatively modern houses, and in the former case, a 19th century church. The landscape is pastoral, but coal has been mined and limestone quarried in the neighbourhood, judging by 19th century maps. Lathockar Mill is shown on maps made from 1775 up to the present, but without a mill lade or pond so it probably depended on horse or man power; there is a saw mill there now, so perhaps that has always been the case. The maps are confusing hereabouts, but it seems that Lathockar Burn is joined on the left bank by a smaller stream, the Kinaldy Burn, and takes its name downstream. A mill is shown along this stretch on Ainslie's 1775 map, but not later; perhaps it was a monastically owned corn mill in the medieval period.

Moving on beyond the steep-sided wooded valley, Kinaldy Den, the stream changes name again, to Wakefield Burn, as it continues north-eastwards to the village of Dunino. There was certainly a saw mill here in the 19th century, and the weir and lade for another mill is shown on the relevant maps, and traces of the lade are visible. The past existence of a wauk mill would tie in with one tenuous explanation for the name 'Wakefield', as the drying field for a mill of this type. There is a church in Dunino, renovated in the early-20th century which may have been reached by a bridge over the Dunino Burn, where it joins the right bank of the Wakefield Burn. This bridge, shown on 17th century maps, may have left traces though its site is now occupied by a wider bridge which gave access to the aforementioned saw mill in the 19th century. Artefacts further upstream along the steep valley formed by the Dunino Burn are thought to be survivals of archaic religious ceremonial. Here in Dunino Den are carvings on a vertical rock face which speak of pre-Christian and early-Christian worship. Additionally, there are platforms above the steep valley wall, on which footprints have been cut of the type seen on coronation sites like Dunadd. Explanations have been forward relating to the Pictish kingdom of Fife, which survived into the 9th century, along with rather more outlandish theories of mystical origin.

From its source to the east of Lathones, the Dunino Burn flows c7km first east then turns generally north-east towards Dunino. Near the left bank, just downstream of the shift in direction, is the conspicuous ruin of Pittarthie Castle, on a hilltop surrounded by cultivated fields but some distance from any public road. It is best

described as a laird's fortified house, built to an L-plan, though it would have been an impressive example of the genre, and had many defensive features like shot holes and gun-loops. It was built by a family called Monypenny in c1580, but curiously, they held it for less than two decades, though they remained influential in the area. Thereafter, it changed hands fairly regularly and survived intact into the late-19th century, but judging by the state of the ruin, it was probably deserted at that time. The photograph is a view from the south-east and shows the main block to the right, the kitchen wing to the left, with a stair-block in the re-entrant angle. The main block of dimensions 10.8 X 6m, and with lower walls 1.2m thick contained the hall with vaulted basements below, and bedrooms above, augmented by rooms in the upper storeys of the wing. (For comparison, a good-sized modern living room might have dimensions 8 X 4.5m). It seems that Kings Cairn Corn Mill was downstream from the castle on the right bank; it was mentioned in documents of the reign of King James VI, but is referred to only as the site of a mill in mid-19th century maps. After collecting the water from the Dunino Burn, the Wakefield Burn continues north-east for a bit less than a kilometre to the confluence with the Cameron Water which marks the start of the Kenly Water; under its various names it has travelled 10km to get there.

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Immediately downstream, old maps show 3 mills; Balcaithlie Mill, and Carlford (or Bonnytown) Mill which appear no later than on Ainslie's map of 1775, but Peekie Mill appears on 19th century maps as a barley mill, though seemingly disused by the end of the century. However, some ruins are still visible. Here also stands Peekie Mill Bridge, shown in the photograph; it is somewhat isolated but reachable by way of a walk of a few hundred kilometres from a public road. The bridge comprises a single semi-circular arch spanning c9m, and carrying a grassy trackway of width 3.3m, between low parapets. The stream was running quite high when the photograph was taken, but it is fairly described as a small river at this point. The fabric is coursed rubble throughout, and there are single, flush chamfered arch rings. A panel on the downstream face of the eastern abutment which carries the Hepburn arms dates the bridge to the early 16th century; it may have given access to the vanished 14th century bishop's palace of Inchmurdo, which once stood on the right bank, a short distance downstream. Such features as the profile, width, and the chamfered arch rings are compatible with that suggested build-date, and the only puzzle is the remarkably good condition of a bridge, which has apparently been of little utility for a long time.

Near the assumed site of the aforementioned palace is Park Mill, also known as Craiganweir, which ground corn through the 19th century, and still stood well into the 20th century. There was also a saw mill here. Crossing nearby is the 5-span Kenly Viaduct which carried the St. Andrews and Anstruther Railway, the last link of the Fife Coast line to be completed in 1887. It was closed in the late 1960s, and a footpath has replaced the tracks.

The river loops abruptly northwards towards the village of Boarhills on the left bank, and then re-establishes a north-easterly trajectory, passing Craig flax mill dating from 1790, and Hillhead corn mill, dating from 1716; both mills were disused by the end of the 19th century though remnants of the latter can still be seen. Beside Hillhead mill, Kenly Water is joined by a small right bank tributary, the Pitmilly Burn. There is nothing unusual, or especially interesting about this stream, except for quirks of nomenclature. It actually begins life as the Kenly Burn, then becomes the Kilduncan Burn, before assuming the name Pitmilly Burn over its final stretch. On a number of the maps of the past couple of centuries, though not the most recent ones, the much larger Kenly Water adopts the name of its small tributary. This would imply that it is the Pitmilly Burn which flows into the sea, as in Mr. Law's photograph taken from the shore, looking back up the river with the tide well-in, but I think it best to regard this as the end-point for the Kenly Water. Combining its length with that of its tributary, the Cameron Burn, gives a total of 17km; unfortunately, the National River Flow Archive has no gauging station on the stream, but I think the mean flow rate near the mouth may well exceed 10000 gallons per minute.

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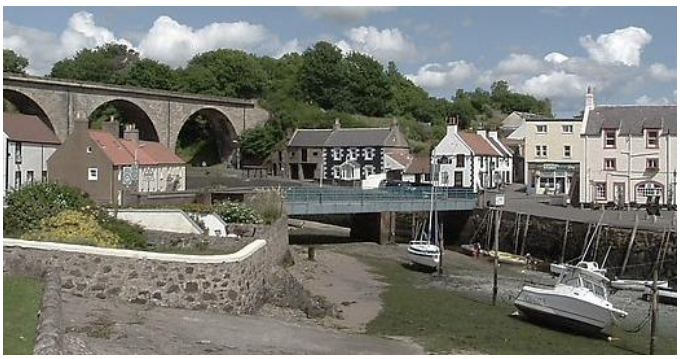
3. Keil Burn

I shall begin this account with some memories of Lower Largo at the mouth of the Keil Burn where it enters the Firth of Forth, before reverting to my usual custom of tracking the burn and its tributaries from source to sea. The photograph shows the harbour of Lower Largo, a small port and resort, at the mouth of the Keil Burn, 4km north-east of Leven. For several years in the



1950s our family holiday in August was spent at Lundin Links which is contiguous with Lower Largo to the east, so we spent time in both places, not least because each boasted a fine sandy beach. The family connection with the area went back to around 1930, when my mother, with her mother and siblings, had spent holidays in a rented house in Lower Largo; if ever my brother and I were recalcitrant about walking anywhere, we used to hear of their walks for miles east along the beach to Elie and beyond. As regards the photograph, I shall return to the viaduct, but for the moment, highlight the shop to be seen at the end of the bridge, and the harbour wall above the burn. The shop has replaced a café run by members of the famous catering diaspora,

the Fortes, and in the early 1950s it boasted a television with a screen which seemed huge beside the few which I had seen elsewhere, (television was just arriving in Scotland). By 1953, when I had reached the age of 8, I had developed a great enthusiasm for cricket, and I remember insisting on being taken to the café where I could watch play in a famous Test Match in which England recovered the Ashes by defeating Australia, for the first time in over 20 years. I have no idea if I saw the winning runs being scored then, because the event was shown so often in succeeding years.

I remember fishing from the harbour wall, not with a rod but with a hooked line wrapped round a wooden frame; the preliminary of digging in wet sand for flat worms to use as bait, and indeed the process of getting them onto the hook were rather less fun. In that category, I would have to place a couple of trips in a small boat out into the Firth of Forth, when sickness long-preceded catching anything, and not just for me. The viaduct carried the Leven to Anstruther section of the Fife Coast line, and comprised 4 stone-built arches, each spanning 18m, and roughly the same height above the surface of the Keil Burn. The line was one of many engineered by (Sir) Thomas Bouch (of Tay Bridge disaster notoriety); projectors were usually keen on his low cost plans, but sometimes less so when they saw the artifices he employed to save money, and this was one of a number of projects from which he was dismissed as engineer. Having said that, there are many of his structures, like this one, which have carried heavy traffic for decades, and still stand after a century and a half. He certainly made bad mistakes on his Tay Bridge project, but there were other contributors to the disaster, including those who selected an engineer whose cheese-pairing methods were well known, for such a demanding scheme, and suppliers who cut their own corners. In the 1950s, the Fife Coast express, hauled by a steam engine, still crossed the viaduct, high above the village; the line remained open until 1966.

Lower Largo was first a fishing port, made a burgh as early as 1513. It housed weavers some of whom later made fishing nets. The village was the birthplace in 1676, of Alexander Selkirk, a privateering mariner, who was marooned after a quarrel with his shipmates on an otherwise uninhabited island near the coast of Chile in 1704; he survived in good health for almost 4½ years, until rescued, and eventually returned to Britain in 1711 having been away for 8 years. Selkirk is commemorated at the location of his birth, (though the actual house is gone) by the Victorian statue in the photograph; he is shown dressed in the goatskin clothes he made for himself while marooned. His story was well-publicised when he reappeared, and is normally cited as the most important source for Daniel Defoe's classic 'Robinson Crusoe', published in 1719, though it is unlikely that Defoe met Selkirk before the latter's death from fever during another privateering voyage in 1721. The village

became a popular resort before the railway arrived, thanks in part to a ferry running between Newhaven and Largo harbour, bringing day-trippers from Edinburgh.

The Keil Burn is short, and even if seen as including upstream stretches which go by the names of Boghall Burn, and Berryside Burn, it is only c7km long. The latter rises at Grid Point NO 437 077, near the 200m contour, and flows for less than 1km through a densely wooded valley, before becoming the Boghall Burn which continues in its own defile for a similar distance dropping quite steeply to cut the 70m contour. The true Keil Burn begins here, at a point where a lade takes water to 19th century Balmain corn mill. The burn then enters Pitcruvie Den, another steep, tree-lined valley, flowing south with the hill, Largo Law, rising fairly steeply above the left bank. Pitcruvie Castle, shown as viewed from the south, is in a farm steading on that bank. The castle was built in the late 15th century by the 4th Lord Lindsay of the Byres. It was of dimensions 12 X 8m with walls 1.8m thick; at different times 2 different stair turrets seem to have been built but neither is extant. The layout comprised a vaulted cellar and the kitchen in the basement, with a vaulted hall above. The height and the configuration of rooms above are unknown, because of the state of the ruin. The Lindsays sold the castle in the 17th century, and little seems to be known of its history thereafter, but old prints from the 19th century show it much ruined, so it seems likely that it ceased to be inhabited early in the 18th century. Keil's Den run by a trust, is a picturesque linear woodland park, which follows the burn downstream from Pitcruvie Castle to the outskirts of Lundin Links. An impression of the scenery is conveyed by the lower photograph.

Lundin Links boasts 3 standing stones, in the bounds of Lundin Ladies Golf Course; there were 4, until the 18th century, and the largest is over 5m high. It is accepted by all authorities that they are prehistoric, though estimates of their actual age and functions are thin on the ground. I am not sure of the harm done by being regularly struck by golf balls, but my boyhood memories include sight of that happening, though I am not willing to admit to being a perpetrator. Although most of Lundin Links is of the later 19th century, with hotels, guest houses, and golf courses its main features, Lundin flour mill is shown on maps of the 18th and 19th

centuries, and there is apparently documentation going back to the 13th century; Lundin Mill was a hamlet associated with this mill long before the rest of the village existed.

Here the Keil Burn swings round abruptly to the east from its previous southward course, and is joined by its main tributary the Hatton Burn, with a corn mill, fed from the latter, beside the confluence. Another short stream which flows generally south-east, the course of the Hatton Burn was interrupted in 1892, with a dam creating the Cathurlie Reservoir to supply water to Leven, Lundin Links and the Largo villages. Another mill, New Pilmuir Sawmill took its water from this burn, downstream from the reservoir. Finally, in this context, as Keil Burn begins to swing south again on its final run into the Firth of Forth, there was a 19th century flax spinning mill on the left bank, just short of the railway viaduct. Having arrived again at Lower Largo, this historical journey is complete.

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4. Lyne Burn

The stand-out fact about this small stream is its contribution to the name of the town which now contains a large part of its course, Dunfermline; the name is thought by most authorities to have meant 'the fort by the crooked Lyne'. Certainly the burn lives up to that description, especially in its lower reaches. It rises a short distance east of the M90, and of Halbeath, now an eastern suburb of Dunfermline, at Grid Point NT 144 883, just above the 100m contour. It flows generally south west, through the southern part of Dunfermline, but further downstream it abruptly swings to the south, entering the Firth of Forth beside the small port of Charleston, having completed a course c15km long.

Halbeath began life in the late 18th century as a village housing miners who worked in the collieries which once surrounded Dunfermline, but it has long since been absorbed by the town. Mining has ceased of course, and the place is now best known for its 'Park and Ride' interchange'. Once the Lyne Burn ran through fairly open country south of Dunfermline, but modern housing has spread, and a considerable part of the next stretch is now invisible in pipes and culverts. That is the situation at the site of Touch corn mill, the first on the burn, but the stream has resurfaced at the location of Touch Bleachfield; a little downstream; the sites of Woodmill corn mill and Woodmill Bleachfield are a short distance further on. The bleachfields finished the work of hundreds of weavers with hand-looms living in the town during the 18th and 19th centuries, especially the table-linen for which the town became world-renowned. On some old maps, the burn assumes the name Spittal Burn for a short stretch around here, in acknowledgement of the presence from the 13th century onwards, of St. Leonards Hospital, which housed destitute widows and possibly lepers (separately). The chapel attached to the institution seems to have survived the Reformation, but was destroyed in the mid-17th century, possibly by Cromwell's soldiers after the Battle of Inverkeithing. Brucefield Spinning Mill was opened in 1792, on the site of a bleachfield near the hospital, and by 1836 there were 7 spinning mills, producing mainly linen yarn, (though one, Harrybrae Mill, also produced thread) within the boundaries of the burgh, mostly near to Tower Burn, a right bank tributary of the Lyne Burn to which I come next. There was also Hough Street corn mill, near the town centre.

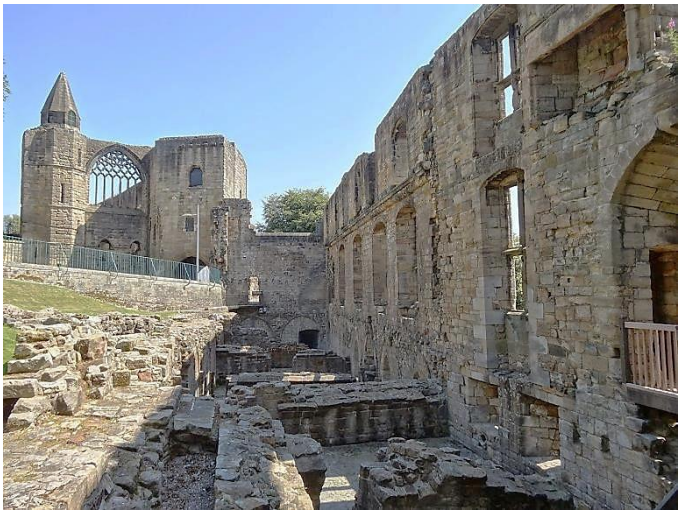
I do not propose to itemise all the mills here, nor do I intend to describe many of the interesting buildings of Dunfermline; I shall look only at those in the immediate neighbourhood of the Tower Burn. The stream rises as the Baldridge Burn a short distance north of the town, and zig-zags south, until near the centre, the name changes to Tower Burn and it enters Pittencrief Park. This symbol of the largesse of Andrew Carnegie, to whose story I shall return, was purchased by him in 1902, and presented to the town a year later.

The area is 31ha, and it has most everything to be desired in a large public park with extensive flower borders including a big rock garden, play areas, woodland walks and displays of birds and animals; it contains or abuts important buildings, while the Tower Burn winds through creating a picturesque glen. The photograph above shows Pittencrief House, built as a mansion for Sir Alexander Clerk in 1610, but altered and extended regularly by a succession of owners before Sir Robert Lorimer restored it in 1911, after its purchase by Carnegie. The house is now a museum.

Far older are the remains of Malcolm's Tower, shown alongside, which was probably built in the 11th century; it is first documented in 1070, and became the headquarters of King Malcolm III, though it is associated, by legend at least, with King Macbeth who reigned from 1040 to 1057. Only foundations remain of a rectangular building with walls 3m thick on top of a crag, mostly surrounded by a loop of the burn; as indicated above, the tower and the Lyne Burn gave the town its name. The fortalice was demolished by King Edward I of England in c1300.

Dunfermline Abbey is just east of Pittencrief Park; the aerial view is from the west. A priory cell was founded on the site by Queen Margaret in c1070, and a Benedictine Abbey followed in 1128, probably for an abbot and 12 monks. That number more than doubled during the lifetime of the establishment, and it became the burial place of King Robert the Bruce and other Scottish Kings. After the Reformation, the aisled nave of the abbey, in the left-centre of the photograph, served as the parish church until the early 19th century. It

dates to the first half of the 12th century, though the towers had to be restored after collapsing. The original east end, including the crossing, apsidal choir and transepts, was completed in 1250 but the structure did not survive the Reformation. The present east end was built in the few years up to 1821 to serve as the parish church, when the decision was also taken to stabilise and preserve the nave in its medieval form. The claustral buildings to the south of the church have largely disappeared, except for the south wall of the 14th century refectory which stood above vaulted cellars, and is to the right in the aerial view. Attached to its south-west corner is a gatehouse which links to a range which was the abbey guest house, but served as a royal palace after the destruction of Malcolm's Tower until the Reformation; these buildings are at the bottom middle of the aerial view, and are shown above, on the right in a view looking east along the palace ruins, towards the abbey church.



Returning to Tower Burn, there is one more old artefact in Pittencrief Park worthy of note, namely Tower Bridge, an unusual structure, close to Malcolm's Tower. It was part of the only western approach to the town centre until 1770. The semi-circular double arched bridge, i.e. with two-storeys, has a lower structure dating in part from 1611, not of course the first bridge on the site, and an upper part built in 1780. The former was 2.7m wide, and it was later underpinned by two large ribs at the ends of the vault, and at the same time widened to 5.1m; one rib appears as the lowest of three arches on the upstream face in the photograph. The upper 18th century portion removed a pronounced dip in the road, which must have troubled carters and walkers. Access is good, with the opportunity to go beneath the bridge on a pathway beside the stream. It is at the apex of the loop made by the burn, possibly an artificial realignment made many centuries ago to form a moat round the rock on which the tower stands; thereafter the stream flows south leaving the park at the site of Lady's Mill, which dated to the 14th century. After flowing a short distance further, and 7km in total from its source, Tower Burn joins the right bank of Lyne Burn just beyond the one-time location of Elgin Bleachfield on the same bank.

Lyne Burn has reached the edge of Dunfermline but before moving on, I will say a little more about the town and its most famous modern-day son, and benefactor, Andrew Carnegie. Beginning with the latter, his birth in the town was in 1835, into a handloom weaver's family; they fell on hard times in the 1840s, and borrowed money to emigrate to the USA, a path trodden by many Scots in the 19th century. At first, things were hard for the family, not excluding Andrew, who began work at a mill in Allegheny at the age of 13,. However his exceptional dilligence and determination to acquire knowledge, marked him out and soon impressed a series of employers; at the age of 18 he had risen some way in terms of job-status, and was employed by the Pennsylvania Railroad Company as a telegraph operator. Rapid promotion followed, and by the age of 24, Carnegie was superintendant of the Western Division of the company; he was helped rather than hindered by the American Civil War which broke out in 1861, gaining increasingly responsible positions on railways which were for the first time key to the successful prosecution of a war. He began to invest, in oil, and especially in steel which was to be the source of most of his wealth. Carnegie became a key player in the consolidation of the industry, and owned a large part of it by the time he retired and sold out to J.P. Morgan in 1901, receiving £300+ million, equivalent to c£10 billion now. For the rest of his life, he focussed on philanthropy, donating 90+% of his wealth, with particular emphasis on libraries, of which he funded 3000, education, and the arts. Dunfermline received Pittencrief Park, and its mansion, a library and other civic buildings. Carnegie's career was not without some controversy; he had a few dubious associates, and took some harsh decisions. Some of his actions and opinions would not find favour with the liberal intelligentsia now, but it seems he was less ruthless than many of his business contemporaries, and it would be hard to contend that his philanthropy did not outweigh his faults. Carnegie died in 1919, at the age of 83, having given away most of his vast fortune.

Dunfermline is fortunate in its setting, with the main older part set on an east/west ridge, c100m high, allowing its buildings to dominate the surrounding area. It has almost a thousand years of history, with enough surviving ancient buildings to make it an essential stop for those interested in such things. Its exceptional park enhances that built environment for visitors, and is a great asset for the townsfolk. In the 19th and early 20th century it was something of an industrial power house, with coal mining all around, and its mills and bleachfields producing world-renowned textiles within its niche of damascs and table-ware. The downside was of course the living conditions for most of the workers, like the Carnegies, but with the demise of these industries, the town though still a busy, bustling place, a retail and distribution centre with 50000 inhabitants, is not quite what it was. I have always compared it as a heritage and regional centre with Stirling and Perth, but both of these towns, smaller than Dunfermline, have officially become cities in recent years, and they have certainly gained in prestige. If Dunfermline has a problem, perhaps it is in its proximity to Edinburgh, especially since the opening of the Forth Road Bridge in 1964. Of course there have been benefits for the many who now live in Dunfermline and work in the capital, but I wonder if the town has lost some of its identity.

After leaving the town, the Lyne Burn flows in loops but generally south-west, soon passing on the left bank the ominously named Gallowridge Hill, on land, including the area of Pittencrief Park, held by the Oberville family from the 13th century; a time when landowners hanged miscreants on prominently sited gallows to deter others. A short distance downstream, the small Crossford Burn joins on the right bank, and Pitfirrane Castle can be seen. A tower house was built by the Halkets family in the 15th century, and heightened in 1583 when a new wing was also built to the south. In the late 17th century, a further large addition, four storeys in height,

was made. The Halkets remained in occupation until 1951, when the building and its grounds were purchased by the Carnegie Trust and leased to Dunfermline Golf Club. The club is old, being founded in 1887, but Pitfirrane is its 4th location to which it moved in 1953. I have played there three or four times, but so long ago that I remember only a pleasant, flat parkland course, usually a sure sign that I experienced neither triumph nor disaster there. I have only the vaguest memories of the castle, viewed from the north in the photograph, which serves as a clubhouse, but can imagine that upkeep costs are high. The burn loops south then west, enclosing Pitliver House, built in the 17th century, but considerably altered since, and still a private dwelling, before heading off south. Here on the left bank is Mid Mill, which was built as a thread mill in 1815, but converted to grinding corn in 1870, and continued in use until the mid-20th century, latterly powered by electricity, rather than water. More recently it has been converted into a large house. After another tight bend, Foothies Mill is on the left bank, then Wauk Mill, and crossing to the right bank Nether Mill which was an iron foundry in the 18th century, and gives its name to Iron Mill Bay where Lyne Burn enters the Firth of Forth. Now Crombie Ammunition Depot is here with a deep water anchorage allowing warships to replenish their stocks of shells, missiles, etc.

Along from the left bank is the small port of Charleston, founded by Charles, 5th Earl of Elgin in 1750, mainly to exploit limestone in a cliff above the town. The surviving row of 9 lime kilns is shown in the photograph; in each kiln, coal and limestone were layered, fired to get the temperature up to 900C, and the desired product, quicklime, indispensable for many industrial processes, was raked out afterwards. A harbour was built to ship the lime out, and when the quarries were exhausted in the early 20th century, it became the home of a ship-breaker's yard, in which a large number of German Battleships scuttled in Scapa Flow after the 1st World War, and the liner Mauretania, were dismantled. The neighbouring village to its east is appropriately named Limekilns, and they are certainly off the beaten track now, and they end my journey along the Lyne Burn.

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5. Bluther Burn

The Bluther Burn rises to the north of Dunfermline, at Grid Point NT 066 918, close to the 180m contour, and flows generally west for the first half of its c23km-long course, before swinging sharply to the south-east, and following that direction until it meets the Firth of Forth at Newmills; there, it flows into the mudflats of Torry Bay. The name, Bluther, is curious-sounding with a slightly foreign ring to it, but derives from a Gaelic word

meaning boggy, and is thought to refer to the ground near the source. In its early stages, the banks are lined with bushes and small trees as the burn traverses a pastoral landscape, interspersed with open-cast coal workings and quarries. The banks of the stream are largely uninhabited, though it is the boundary between Fife and Clackmannanshire for c4km, up to and just past, where it makes the aforementioned shift in its direction of flow. Immediately beyond that is the right bank site of Hartshaw Mill, which seems to have ground corn until the late-19th century. There was once a tower here, but a date-stone for 1574 is the only survival.

Approximately 6km downstream from Hartshaw the Bluther Burn is joined on the left bank by its main tributary. This stream rises as the Carnock Burn, not far south of the source of its parent, and flows south-west, then west, and finally south for a short distance, before the confluence; it is 11km long and its name changes twice, first to Comrie Burn, and then to Grange Burn. There are 4 settlements along the burn; the easternmost and smallest is Gowkhall, previously known as Balclune. To its west is Carnock which gave its name to a parish, and is the location of remains of an old church dating to c1200; the discovery of an early Christian carved slab may indicate that at least one other church preceded it, and the prominence of the raised site is also suggestive of ancient origins. The building, a narrow rectangular, single chamber, viewed from the north-west in the photograph, is in a graveyard on the right bank of Carnock Burn. It was ruined by the time of the Reformation, but restored in the early 17th century, and functioned until 1840 when a new church was built to serve the parish. During the 19th century, a corn mill and a saw mill operated in the village.

Moving west, the next village is Oakley, which did not really exist before 1846 when Forth Ironworks opened, initially with 4 blast furnaces, but later, there were 6 of them. Unfortunately the enterprise did not prosper long-term, and closed in 1869. The village got a new lease of life in the 20th century when coal was mined in the neighbourhood, but the local colliery closed in 1986. Contiguous with Oakley on its west is Comrie, which also became heavily dependent on the aforementioned colliery, and here the burn makes its first name change, to Comrie Burn; there was a saw mill here in the 19th century. Thereafter, the burn begins to turn southwards and makes its second name change to Grange Burn, before its junction with Bluther Burn.

The combined stream soon reaches Shires Corn Mill on the left bank; the site may have a long history, back to the 16th century, and seems to have operated well into the 20th century. Moving on downstream, the Valleyfield Estate is on the right bank, and here in the early 19th century, a wealthy trader to the East Indies, Sir Robert Preston, built a fine classical mansion, and commissioned the esteemed landscape designer, Sir Humphrey Repton, to surround it with gardens and tailored woodlands; it was Repton's only Scottish project, though he is associated with over 70 in England and is seen as a worthy successor to Capability Brown. Unfortunately, the house fell into disrepair after the death of the last titled owner, and was demolished in 1941. As for the gardens, I can vouch for the fact that they have become something of a wilderness, though traces of borders can be seen and plans are afoot to restore them; it will be a major task.

The burn is tracing a meandering course at this point but reaches a Bleachfield and New Mill, which from medieval times, when run by monks, until the 20th century, ground corn and gave its name to the hamlet near it. Newmills Old Bridge is a short distance north of its modern replacement carrying the B9037, but I struggled to find it in dense undergrowth. It is an overgrown semi-ruin with no parapets. There is a slightly pointed river arch, shown in a view looking upstream and apparently a small flood arch alongside, though I failed to observe the latter amongst the heavy vegetation on my visit. The main arch has been underpinned by a second one which takes the form of two thick, roughly chamfered ribs with sideways infill. The bridge was approximately 3.5m wide. Authorities state that the bridge dates to the 17th century, though its design, and the provenance of industrial remains around it, suggest that it might be a century older, and have been strengthened later.

The photograph alongside looks upstream at low tide, as the Bluther Burn emerges from woodlands to flow under the B9037, and the railway line between Dunfermline and Stirling and out into Torry Bay in the Firth of Forth. Although there are no flow monitoring stations on the burn, it is reasonable to assume from its appearance that it is carrying 10000+ gallons/minute. There is reclaimed land to its west, built up using ash from the nearby coal-burning Longannet Power Station, in the years after 1970. This was not the first reclamation here; in the early 19th century, Sir Robert Preston, mentioned earlier in connection with the Valleyfield Estate, enclosed an area including rocks exposed at low tide with a sea wall, and built up Preston Island. His aim was to extract salt, and in order to provide fuel for the operation, which involved evaporation of sea water, he sank three shafts on the island to mine coal. Tragically, an explosion in one of these pits killed several miners in 1811, and thereafter coal was brought in from elsewhere, until salt extraction ended in the 1850s. Apparently the island was the site of an illicit distillery for some years, but at all events, buildings dating to the early 19th century are still visible from the shore. (An interesting article is available on the website; tafac.org.uk; author, G. Ewart). It would not be unreasonable to extend this account by looking at Culross, with its abbey and palace, and at the amazing life-story of a famous resident, Admiral Thomas Cochrane, 10th Earl of Dundonald, but there is no dearth of information on these topics, and the village, 2km to the west of the mouth of the Bluther Burn, is not really associated with the burn. So I shall move on to the next lesser stream.

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6. Black Devon Water

The Black (or South) Devon Water rises as the Nettly Burn on Outh Moor in the Cleish Hills, at Grid Point 065 955, just above the 290m contour. It sets off in a south-easterly direction, as a small stream on a heather moor, but then swings sharply to a westerly direction, before passing under the A823 where Mr. Webb's photograph was taken; it is still above the 250m contour, but heather has given way to rough pasture. At this point the stream becomes the Black Devon Water, and passes Knock Hill on its left bank. On the eastern slopes, Knock Hill Racing Circuit was opened in the early 1970s, and has hosted car and motor cycle races ever since, on a track, 2km long, with twist, turns, drops and climbs enough to test top practitioners. Just under 2km downstream the stream receives a right bank tributary, the Letham Burn and enters Swallow Craig Den, a steep sided valley, densely populated with trees and bushes. Here, it splashes over Swallow Craig falls, shown alongside in a photograph taken by a Mr. Innes; pretty perhaps rather than very impressive. The Black Devon Water continues in a tree lined glen, and enters Milton Dean; den and dean are interchangeable with the former more common in Scotland, the latter in Northern England, but it is unusual to see them appearing adjacently. The stream has cut the 100m contour, but the landscape remains mostly pastoral, away from the trees in its valley.

The first mills on the small river were a wauk mill, and saw mill, where it leaves the Dean at Balgonar, and then, a short distance downstream, Lethrie corn mill. Here a left bank tributary, the Saline Burn joins. It rises on the southern slopes of the Saline Hills, outliers of the Cleish Hills, and flows west through Steelend, a hamlet of miners cottages built in the 19th century, and then Saline. This village housed weavers, in the late 18th and early 19th centuries, and was more or less untouched by the intensive mining operations round about, so retains cottages and other buildings from that period, along with some modern housing. In its centre, Craighouse corn mill and Saline saw mill relied on water drawn from the Saline Burn. On higher ground to the north-east, there are scanty ruins of Killernie Castle which was built in the 16th century as a rectangular tower block with round towers at opposite corners (Z-plan), possibly surrounded by a barmkin wall.

Approximately 3km downstream, the Black Devon Water is joined by a right bank tributary, the Roughcleugh Burn; at the confluence the boundaries of Perthshire, Fife, and Clackmannanshire meet, and thereafter the river is the boundary between the latter two counties, until it enters Clackmannanshire, about 2½km further downstream. The landscape remains pastoral, until the river nears the hamlet of Forest Mill where there is a fairly dramatic change, suggested by the name. The forest which is on all sides of the hamlet is made up of separate woodlands; to name a few, Gartlove Plantation, Birkhill Plantation, Oakhill Wood, and North and South Plantations. They are run as a source of timber, softwood and hardwood, but also as an amenity with paths and planned walks. There are two mills at Forest Mill, one a corn mill, and the other, unsurprisingly a saw mill.

Also here, is a weir, now unfortunately on the 'Buildings at Risk' register, which directed water into a lade which still survives, as shown in the right centre of the photograph, albeit no longer carrying water as it did for c3km into the reservoir known as Gartmorn Dam, The reservoir was created by damming the Brothie Burn, in the 17th century to provide water for mills, in and around Alloa. A series of improvements to the system were then made by John Erskine, 23rd Earl of Mar, in the years before he became embroiled in the Jacobite Rebellion of 1715, and he can be given the credit for building a sophisticated water management scheme which preceded anything of its type in Britain, even allowing for the resourcefulness of medieval monks. His focus was on increasing the rate at which water could be taken from the reservoir, which required an increase in the delivery rate into it. In 1709, Mar engaged a hydraulic engineer from Derby, George Sorocold to advise on how this might be done. Sorocold suggested the diversion of water from the Black Devon Water, and designed the aforementioned weir and a lade; the length of the latter was dictated by the need to draw off water at a height sufficiently above the feed into Gartmorn Dam Reservoir to drive a substantial water flow through the lade.

An enhanced water flow left the west end of the reservoir, by way of another lade, which followed the course of the Brothie Burn; the reservoir outlet is shown in the photograph, along with some of its population of swans and ducks. Water was directed to nearby coal mines where water wheels drove pumps, to Alloa to power mills and to water features in the pleasure gardens, on the estate of the Earls of Mar. The history thereafter, is of continuing development and diversification of uses; by the 1860s, water from the reservoir was supplied to 3 coalmines and to 11 waterwheels in various mills around Alloa. In addition, water was probably supplied to a distillery and a number of breweries, and perhaps to an ironworks in the north of the town. In the late 19th

century, industrial usage began to tail off, but the reservoir became the source of domestic water for Alloa after 1891, an arrangement which lasted for a century. Recently the reservoir and its surrounds have become a country park. The scheme, important in the context of Scottish and British industrial development, is summarised on the engineering-timelines website and more fully described in a learned paper, authored by Margaret Stewart; both sources are referenced.

Past Forest Mill, the Black Devon Water continues westward in quite close company with the lade, until just before reaching Gartmorn Dam it swings sharply southwards with Birkhill Plantation on the left bank and reaches Linn Mill, a hamlet, where there was a corn mill in the 17th century and a saw mill later. The waterfall from which the name derives is shown in the photograph; the stone blocks in the right foreground are survivals from the mills, as is a short length of the lade beside the river, above the waterfall, which channelled water from a weir further upstream.

A short distance downstream from the waterfall is an interesting old bridge, though it is so much festooned with vegetation, that it has been difficult to identify its features, and as can be seen from my effort alongside, to photograph. It has a single semi-circular arch spanning c6m, and carries a track almost 3m wide between low parapets. Until a high level bridge was built in c1800, a short distance further downstream, it must have provided the sole access to the mills from Clackmannan, requiring carts and people to negotiate quite steep slopes on each bank. As to its age, it may have been built as early as the 17th century, though the plain structure itself gives few clues. The bridge is on the 'Buildings at Risk' register but appears quite robust, and carries only pedestrians and their dogs into a nature reserve, so does not appear to be in imminent danger, but it would be nice to see the vegetation cleared.

The river then swings west again to flow through the small but historic town of Clackmannan. It is thought to have been an early Christian centre, but the present church dates to the early 19th century, though it is on the same site as a predecessor built in 1249. The town was a port of importance in medieval times, with ships coming a short distance up the tidal Black Devon Water to Powside, but the channel silted up, and it was deserted in favour of Alloa docks; there are no traces of any harbour installations now. It suffered in other ways from the expansion of its near neighbour to the west, ceding its status as county town in 1822, but must have benefitted to some degree from the growth of coal mining round about There was a woollen mill near the

centre of the town in the late 19th century. Now Clackmannan is largely a dormitory town with a population of c3500. The name derives from the word for a boulder, ‘clack’, supposedly associated in some way with a Celtic, pre-Christian sea god, ‘Mannau’; the surviving artefact is shown in the foreground of the photograph alongside, in its position in the centre of the town alongside an old market cross, and the 17th century belfry tower which was added to the late-16th century Tolbooth. The said stone, which was placed on a specially quarried base in its current location in 1833, is perhaps 5000 years old. The town is dominated by Clackmannan Tower, viewed from the south in the lower photograph. It is on top of a hill in the western outskirts, aligned with the main street. The original 4-storey tower of dimensions, 11.5 X 8.6m was built in c1360 by a descendent of King Robert the Bruce. A wing, one storey higher with a machiolated wall-walk was added to the south in the 15th century, and the original tower was later raised and topped off by an attic within a machiolated parapet. The surrounding courtyard or barmkin was presumably an original feature with much higher defensive walls than now. The arrangements in the tower were conventional with vaulted basements below a hall on the lower floors and bedrooms above; the wing provided the space for a kitchen at hall level, extra bedrooms and additional stairs. The Bruce family continued in trouble-free occupation until the 18th century, when they backed the Jacobites, and became impoverished in the following years. The house ceased to be occupied in c1800, and is now in state ownership.

The river swings round the King’s Seat Hill on which the tower stands, and meanders for c1½km to its confluence with the Firth of Forth. Here, a sluice gate has been installed to hold back the river flow and create an artificial wetland on the right bank which is maintained as a nature reserve. The Black Devon has flowed 20km from its source; the mean flow rate measured where it enters Clackmannan is 12200 gallons/minute, and with no significant tributaries joining downstream, it can be assumed that the flow rate at the mouth is little different. It must have been significantly less when part-diverted into Gartmorn Dam Reservoir, and thereafter, the Brothie Burn, but that no longer happens. The Black Devon Water is something of a hidden river, with

much of its course in steep-sided valleys, amidst trees; it passes through few settlements except for Clackmannan, and even there it is not specially visible.

This has been the last of my historical journeys along 6 lesser streams of Fife and Clackmannanshire, and it remains only to list the watermills powered by them, which have been identified.

Table LS1. Mills on Lesser Streams in Fife, & Clackmannanshire

Mills are ordered from the source of the stream; tributaries are ordered from the source of the stream which they feed. Left Bank tributaries are denoted (L), Right Bank tributaries, (R), Continuations, (c).

Colour code for mill type; Corn, Grain, Flour, Meal, Barley; Textiles; Paper; Sawmills, Coopers; Foundries; Special inc. Snuff, Flint, Gunpowder; Unknown:

For mills with different functions at different times, more than one colour is used. BF ≡ Bleachfield

Stream	Parent Stream	1.	2.	3.	4.	5.	6.	7.
Kinness B.		Denbrae (1)	Denbrae (2)	New	Plash	Abbey	Shore	
Cairnmill B. (R)	Kinness B.	Cairns						
Kenly W.		Balcaithlie	Carlford	Peekie	Park	Craig	Hillhead	
Cameron B. (c)	Kenly W.	Stravithie						
Wakefield B. (c)	Kenly W.	Lathockar	Kinaldy	Dunino				
Dunino B. (R)	Wakefield B.	King's Cairn						
Keil B.		Balmain	Lundin	Largo				
Hatton B. (R)	Keil B.	Pilmuir	Hatton					
Lyne B.		Touch	Touch BF	Woodmill	Woodmill BF	Brucefield	Elgin BF	Mid
Lyne B. (cont)		Foothies	Wauk	Nether				
Tower B. (R)	Lyne B.	Harrybrae	Tower Street					
Bluther B.		Hartside	Shires	Newmills	Newmills BF			
Grange B. (L)	Bluther B.	Carnock (1)	Carnock (2)	Oakley	Comrie			
Black Devon W.		Balgonar (1)	Balgonar (2)	Lethrie	Forestmill (1)	Forestmill (2)	Linn Mill	Clackmannan
Saline B. (L)	Black Devon W.	Craighouse	Saline					

In Table 1 there are a total of 52 mills, of which 24 were corn mills, 14 were textile mills or bleachfields, 9 were saw mills, 2 were foundries, and the functions of 3 are unknown. Of course there are other streams in the counties which have not been considered, so too many conclusions should not be drawn, but the general mix may be a good guide to the types of mills on lesser streams.